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Ca

Bulletin of  
Cancer Progress



To Dr. Charles S. Cameron  
from his friends on the Board and Staff  
of the American Cancer Society  
October 1962





## democratic philanthropy

United, federated, community giving in place of direct, one-objective philanthropy is like shotgun prescribing in place of specific therapy.

In this country with freedom of religion, speech and thought, and even of choice of physician, denial of freedom of choice of philanthropy is inconsistent with our other freedoms.

The attitude of the physician toward the increasing effort to submerge all American charities into one omnibus fund for arbitrary apportionment to the several foundations should be the same as his attitude toward state medicine. The importance of his support of direct philanthropy is emphasized in the editorial from *California Medicine* reprinted on page 135.

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### Cover Portrait—by Gordon C. Aymar.

This is a pleasing reproduction of a portrait presented by the Board of Directors of the American Cancer Society to Dr. Charles Sherwood Cameron. He is a man known and beloved by all cancer fighters, home and abroad—surgeon, oncologist, author, educator, administrator and founder of *CA—Bulletin of Cancer Progress*, whose broad vision, sound judgment and executive talent shaped and energized the present professional education, service and statistical activities of the American Cancer Society.

When all of Dr. Cameron's well laid plans and objectives, begun in 1946, materialized ten years later, his wish for another task in constructive medical administration was met by an invitation to become Dean of his Alma Mater, Hahnemann Medical College of Philadelphia and Director of its Hospital. The invitation appealed to him especially as Hahnemann was about to launch a program of wide expansion—another great challenge for his medical administrative talent.

Despite the exhausting demands of his new post, he generously consented to continue to edit *CA* as he had from its first issue. Now, after two years of extramural editorship he willingly supports this growing medium of professional education as Consulting Editor. The present editorial staff appreciates having one of his knowledge and experience with whom difficult editorial problems may be discussed.

Dr. Cameron's many friends at ACS National, in the Divisions and throughout the country, fully aware of his outstanding inspirational leadership, feel certain that his efforts at Hahnemann will prove quite as successful as they did in the wonderful growth of our Society. His great contributions to humanity bring joy to all of our hearts.



Honorary Life Director  
American Cancer Society



# NEWSLETTER

JULY-AUGUST, 1958

Science Editors' Tour of 32 Cancer Research Institutions

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(Continued from May Newsletter.)

Havas and Donnelly (Institute for Cancer Research, Phila.): New polysaccharides, less toxic than the old, have been extracted from bacteria (streptococcus among others) and they are being tested on a series of ten patients. Like their predecessors, these polysaccharides cause the disappearance of more than half the tumors transplanted to experimental animals, but they show little or no effect on spontaneous or induced cancers of animals. A total of 126 preparations from streptococcus and other organisms (including the erysipelas bacillus) have been tested.

Min Chiu Li (Memorial and Kings County): Not only methotrexate but DON, as well, causes spectacular regression of chorioncarcinoma. Moreover, DON does it in small doses and without hospitalization. Nitrogen mustard also affects this condition.

Moore (Memorial): A high percentage of cancer patients have low properdin levels. Sometimes the properdin titer can be raised with zymosan. Sometimes not. Prodigious amounts of precious properdin have been given to one small girl patient with some restoration of the blood level observable. Clinical effects were not immediately apparent.

Lemon (Boston U.): Sixty breast cancer patients have been treated over the last five years with cortisone or prednisone, one half of them for six or more months. Results were roughly about the same as those reported for hypophysectomy. Cortisone seemed to increase roentgen-ray sensitivity in some.

Huggins (U. of Chicago): Five breast cancer patients derived objective benefits from 3-methylcholanthrene. One concern was that they might be harmed by this potent carcinogen. So far, no bad side effects have been shown. Several years ago Richardson (U. of Wash.) showed in animal studies that MC prevented azo dye hepatomas and enormous doses could be given orally without toxic effects.



Wissler (U. of Chicago): Some anticancer drugs, each by itself weak, have potent synergistic effects when used in combination. Beta-3-thienylalanine shows slight inhibition of transplanted lymphomas -- but, when combined with phenylalanine-deficient diets, it becomes a potent inhibitor. Isoniazid plus penicillamine restricts tumor growth 1/5-1/20 of the untreated control size.

Busch (U. of Ill.): Tumor cells take up amino acids and use them in their own proteins. Differentiated normal cells are more inclined to use the amino acids in proteins produced for the host. Amino acid analogues might wreck the gluttonous cancer cell and spare the good citizen cells.

McDonald and Cole (U. of Ill.): Animal experiments give unequivocal evidence that free-floating cancer cells can be destroyed by drugs given intravenously or intraperitoneally. While controlled human tests (randomly matched surgical patients are divided into two groups -- given or not given anticancer drugs during and following surgery) so far make prophylaxis look promising, it is still too early to evaluate the results.

Heidelberger, Curreri and Ainsfield (U. of Wis.): 5-Fluorouracil, a thymine antagonist, has been tested on more than 100 patients, with interesting but transient palliative effects in many. The ingeniously conceived drug produces its most dramatic effects -- including occasional complete or almost complete remission -- only in toxic doses.

LePage (U. of Wis.): Azaserine blocks the tumor's manufacture of new purines but permits the tumor to utilize the already formed purines. Azaserine plus thioguanine blocks synthesis of new and utilization of old purines -- and in preliminary tests has had gratifying effect on experimental tumors.

Kirschbaum (Baylor) and Eckles (M. D. Anderson): ThioTEPA has potent anti-tumor effects but is limited by its toxicity (marrow depression, hemorrhage and agranulocytosis). In mice homologous marrow infusion overcomes the toxicity.

Potter (U. of Wis.): Liver mitochondria inhibit glycolysis in the supernatant fraction of brain and tumor homogenates. Tumor mitochondria, lacking triphosphopyridine, nucleotide, cytochrome with reductase and transhydrogenase, don't. TPN alone does and so does TPNH, even without mitochondria. Hepatomas lack or are in short supply of as many as 14 enzyme systems.

(Continued after page 144)





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TOPIC: HOME AND HOSPITAL CARE  
OF THE CANCER PATIENT

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LIST OF MEDICAL LITERATURE AND QUARTERLY  
CUMULATIVE INDEX MEDICUS, AND SOME ARE  
ABSTRACTED IN CHEMICAL ABSTRACTS, BIOLOGICAL  
ABSTRACTS, EXCERPTA MEDICA AND ABSTRACTS OF WORLD MEDICINE.

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# Keeping up

## Delayed Diagnosis and Treatment

Early, correct diagnosis and treatment by surgery, chemotherapy, irradiation or a combination of these are the major means of controlling cancer. A small proportion of neoplasms can be prevented by avoiding exposure to carcinogenic agents. But major emphasis must be placed upon detection of precancerous and early malignant lesions by mass surveys and by routine examinations both of apparently well persons and of patients with symptoms related to cancer. Control of cancer depends upon the individual's willingness to seek medical care early in the course of the disease and upon the physician's alertness in diagnosis and in instituting prompt treatment. Only minor gains are being made, through educational efforts of voluntary organizations, in bringing the cancer patient to the doctor earlier. Several previously published reports of patient and physician delay are analyzed and the conclusions of the several authors are cited. Even after the patient has been admitted to the hospital unwarranted delays in starting treatment occur. One author attributed 84 per cent of the delay in treatment of a group of patients with breast cancer to the patient and 16 per cent to the physician. Delay may be due to the patient's failure to seek medical advice within a "reasonable time after becoming aware of his symptoms," this failure to follow through with therapy, failure of the physician to reach a definite diagnosis or to refer the patient to competent diagnostic service, failure to institute treatment promptly and application of inadequate surgery or insufficient irradiation. Patients may delay on account of their fear of cancer or of physicians. Delays by

the patient are often explained by his being subnormal in intelligence, over-cheerful, apathetic, worried, senile, depressed or mentally disturbed. Inability to carry the cost of medical care and obligations to dependents were other causes of patient delay. Youth and higher educational attainments are factors in preventing patient delay. Ignorance and fear have been named as the two main factors in delay. There is great need for further research into the causes of delay. The following factors are related to the patient's delay: social background, economic status, anxiety over cancer, personal negligence, attitudes toward medicine and hospitals, fatalism, reticence to discuss one's condition, defense mechanisms, site of the cancer and lack of realization of the seriousness of the symptoms. Study of a group of patients with pelvic cancer showed physician delay to be due to reluctance to examine the patient with pelvic bleeding, reluctance to do pelvic examinations on the first visit, ascribing the symptoms to the menopause, lack of time for a thorough examination, fear of losing the patient if pelvic examination is done, reluctance to make a pelvic examination of a virgin or of nulliparous older women, fear of harming the patient by a pelvic examination in the home or even in the office, inadequate equipment for pelvic examination and application of therapy without examination. Another study showed that in more than 80 per cent of the patients, a diagnosis of cancer could have been made if the initial physician had only made a careful physical examination and taken a history.

*Kutner, B.; Makover, H. B., and Oppenheim, A.: Delay in the diagnosis and treatment of cancer: a critical analysis of the literature. J. Chron. Dis. 7:95-120, Feb., 1958.*



# with Cancer



## Tobacco Tar on the Bronchus

Tobacco tar applied, through a tracheal window, directly to the bronchial mucosa of dogs rapidly induced a marked degree of squamous metaplasia. Other irritants and known polycyclic hydrocarbon carcinogens are under similar study. The metaplasia caused by the tar occurred within a few weeks and did not progress, even after 11 months, to so-called pre-cancerous state. Further transformation may require much more extended tar application. However, even the production of metaplasia by tobacco tar is of interest in view of the studies by Auerbach (*CA* 8:53-56, 1958.) showing such metaplasia to be associated with cigarette smoking. Moreover, it has been shown that metaplastic epithelium is a suitable substratum for the action of carcinogens. The same agent may induce both metaplasia and neoplasia.

*Rockey, E. E.; Kuschner, M.; Kosak, A. I., and Mayer, E.: The effect of tobacco tar on the bronchial mucosa of dogs. Cancer 11:466-472, May-June, 1958.*

## Treatment Delay in Cervical Cancer

By extended, recorded interviews with 15 patients with cervical cancer the psychological reactions causing delay in treatment were elicited. Among the reactions expressed were fear of cancer, resulting in denial of the significance of symptoms, the idea that cancer is incurable, the association of shame with cancer of the uterus, depression from hardships in life, as death in the family, alcoholic husband, loneliness, financial, etc., and feeling of indispensability to the family. Recommendations are made for dealing with these delaying reactions. The public should be in-

formed of the known facts concerning the origins and treatment of cancer in order to rid the disease of its mystery, fatality and shame. The suggestion is made that it would be helpful if the psychological difficulties usually encountered in the procrastinating woman and their solution were known to others. To this end the authors have made available a 13-minute tape-recorded composite interview between a patient and her doctor embodying all of the psychological barriers to early treatment developed in this study. The text of this interview is given in an appendix in the article.

*Sandifer, M. G., and Pritchett, N. L.: Psychologic reactions causing a delay in treatment of cancer of the cervix. Obst. & Gynec. 11:82-85; appendix 85-88, Jan., 1958.*

## Cervical Carcinoma in Situ

Errors in diagnosis of carcinoma in situ of the cervix may result from inadequate biopsy, misinterpretation of the atypism because of pregnancy or associated inflammatory disease, or trichomonas infection. If the cytologic examination is positive or suspicious, a deep cone biopsy, including the entire squamocolumnar junction, is made. If the patient will cooperate in a rigid follow-up program, conization may be considered adequate treatment if a true carcinoma in situ is found and the lesion does not extend beyond the limits of the biopsy, the atypical epithelium does not undermine the lining of the mucous gland, and there is no associated adnexal disease. If the atypical cells remain or recur in subsequent smears, such treatment does not deprive the patient of the benefits of radiation or more radical surgery at a later date. Eleven patients were reported to have been treated



by deep cone biopsy and followed for from six months to four and a half years with cytologic smears at three-month intervals. All malignant cells disappeared following cone biopsy and no atypical elements have been found on subsequent examination.

Laird, T. K.: *The management of in situ carcinoma of the cervix. Am. Surgeon* 23:222-228, March, 1957.

### Smog and Lung Cancer

A significantly greater incidence of pulmonary tumors occurred among C57BL mice exposed to an atmosphere of ozonized gasoline than among controls exposed to an atmosphere of washed air. The tumors frequently showed characteristics considered to be indicative of neoplastic growth—hyperchromatism, pleomorphism of cells, loss of polarity and papillary growth. The respiratory epithelium of the test mice showed significant hyperplastic and metaplastic response. The test mice developed fewer spontaneous extrapulmonary tumors than did the control mice in the washed air environment. Differences in the incidence of pulmonary tumors in the two groups of mice and the hyperplastic and metaplastic changes in the bronchial mucosa in this highly refractory strain indicate that an atmosphere polluted with oxidative products of aliphatic hydrocarbons to be a factor in the lung cancer etiology in man.

Kotin, P.; Falk, H. L., and McCammon, C. J.: *The experimental induction of pulmonary tumors and changes in the respiratory epithelium in C57BL mice following their exposure to an atmosphere of ozonized gasoline. Cancer* 11:473-481, May-June, 1958.

### British Tobacco Industry's Strategy

In 1954 when reports of evidence for a close relationship between smoking and lung cancer were piling up the tobacco manufacturers of Great Britain gave the Medical Research Council £250,000 for furthering research on the subject. Three years later, not satisfied with the results of their philanthropy, they set up a new £1,000,000 research fund under a Standing Committee consisting of technical representatives from the different companies and two eminent scientists—a

chemical technologist and a statistician-geneticist. The first report of the Standing Committee, June 17, 1957, shows undisguised attempts to belittle the findings of those investigators who have shown a correlation between smoking and lung cancer. The laboratory work of the Committee is largely concerned with the measurement of benzpyrene in cigarette smoke. It claims that the daily intake of benzpyrene in the air of London is equivalent to that from one hundred cigarettes. It is implied that, therefore, the carcinogen, benzpyrene in cigarette smoke can be ignored. Unfortunately for this claim, lung cancer is increasing rapidly in towns in Norway, Iceland and Denmark where the air is far less smoky than in London. And women have a much lower lung cancer rate than men, although they breathe the same air. Much emphasis is put on the statistical aspects of the problem, with a quibble as to whether the relation is causal or contingent. The hypothetical genetic factor and the lower incidence of lung cancer in women are again used to cover the guilt of tobacco. But, as the lung cancer rate for women has been rising quite rapidly, this line of argument is better abandoned.

Hieger, I.: *Smoking and lung cancer; report of the Tobacco Manufacturers' Standing Committee. Nature* 180:308-309, Aug. 17, 1957.

### Cytology in Gynecology

An analysis is made of the results of cytological examination of 4250 outpatients of whom 85 (2 per cent) had malignant disease of uterine cervix or body. Preliminary report of this study was made in 1956 (abstr. *CA* 7:121, 1957). The chief function of cytology is to reveal carcinoma in situ in the clinically normal cervix. The unexpected pick-up rate of this lesion was 3.5 per 1000 in this series. Cytology may also lead to diagnosis of invasive carcinoma of the cervix or corpus. Seven of 16 cases of carcinoma in situ were treated by hysterectomy and 9 simply by ring biopsy and careful follow-up. Cytology affords not only the diagnosis of carcinoma in situ but also the opportunity of studying this condition by



careful and frequent observation of each case. In this series 94 per cent of 53 cases of carcinoma of the cervix gave positive cytological test, and 78 per cent of 32 cases of carcinoma of the corpus were positive. In young women who want children conservative therapy—curettage and ring biopsy—may be adequate if the patient is given prolonged follow-up to determine the necessity for more radical treatment—hysterectomy. The decision concerning treatment, although made by the clinician, is based on information given by the pathologist and cytologist after joint discussion. After six months training an apt technician is given responsibility for signing cytological reports. The average time for careful microscopic screening of a vaginal smear is 5 to 7 minutes but it may be as long as 15 to 20 minutes.

McLaren, H. C.; Taylor, C. W., and Attwood, M. E.: *Cytological diagnosis of gynaecological practice. Lancet* 1:398-400, Feb. 22, 1958.

## Viruses and Cancer

Nothing in our present knowledge of oncology or virology is inconsistent with the hypothesis that some or even all human cancers may be due in part to infection with viruses. However, there has been no demonstration of a virus etiology of any human cancer and the difficulty of such a demonstration is great. Many types of cancer—epidermoid carcinoma, adenocarcinoma, leukemia and sarcoma—in many vertebrates are induced by viruses. The course of infection by these oncogenic viruses differs from the better understood viruses that cause acute infections of the respiratory and nervous systems. This difference includes transmission, latent period, persistence, detectability and type of tissue reaction. These characteristics complicate the laboratory studies and explain the comparatively slow development of their branch of virology. [See also Stanley, W. M.: *CA—Bull. Cancer Progr.* 7:97-100, 1957—Ed.]

Southam, C. M.: *The role of viruses in carcinogenesis. Paper presented at Annual Meeting, Medical Society of the State of New York, New York City, May 16, 1958.*

## Cervical Cytology

Based on experience in the Strang Cancer Prevention Clinic (New York City) with 2,281 patients in six years, the authors conclude that inclusion of cervical cytological tests in annual examinations of apparently well women would practically eliminate deaths from cervical cancer. Approximately three-quarters of their patients return for repeat examinations. Cytological examination of direct cervical smears was the primary means of detecting 91 per cent of the cancers found. For a single examination the false negative errors were less than 10 per cent. This error practically disappears with repeat examinations. Eight years is stated to be the average period before a cancer in situ becomes invasive. When carried out with the proper techniques the cytological test is the most accurate method for finding early, curable cervical cancer.

Berg, J. W., and Bader, G. M.: *The present potential of exfoliative cytology in the detection of cervix cancer. Cancer* 11:758-764, July-Aug., 1958.

## Prednisolone in Breast Cancer

Prednisolone, an analogue of hydrocortisone, has four or more times the corticotropin-inhibiting potency of cortisone with minimal electrolyte disturbance. This synthetic drug, and the related prednisone, were administered to 45 patients, aged 27 to 75 years, with disseminated breast cancer and intact adrenals. Eleven patients with cerebral metastases were given 100 mg. of oral prednisolone daily. The other 34 patients received 50 mg. a day. Treatment was continued for three months or until side effects or progression of the disease indicated earlier change. Generalized regression of the tumor occurred in eight patients. In only three of these the regression lasted for more than three months. Two patients are in remission after one year of therapy. Previous castration did not increase the number of regressions. Prednisolone is recommended in treatment of patients with cerebral metastasis, hypercalcemia and lymphedema, and for symptomatic therapy. Among the side effects encountered were gastric and



duodenal ulcers and quadriceps weakness. Prednisolone therapy so improved patients with cerebral metastases or hypercalcemia as to make oophorectomy or adrenalectomy possible. Some bedridden patients became ambulant and could attend the outpatient department for radiation therapy. Prednisolone causes but little salt retention, and is not recommended to control adrenal insufficiency in situations involving stress.

Kofman, S.; Nagamani, D.; Buenger, R. E., and Taylor, S. G., III: The use of prednisolone in the treatment of disseminated breast carcinoma. *Cancer* 11: 226-232, Jan.-Feb., 1958.

### Surgery for Cancer

The present science of cancer therapy is based on discoveries made in the latter part of the nineteenth century. Of the three modalities in treatment of cancer today—surgery, radiation and chemotherapy—surgery is at present the most useful for cure and palliation. Also, good surgery is more accessible in most areas of our country than competent radiation or chemotherapy. The general surgeon is potentially a cancer surgeon. General surgical training is prerequisite to cancer surgery. The major aspects of the surgical treatment of cancer are biopsy, surgery for cure, for palliation, for prevention and for reconstruction and rehabilitation. An important element of the care of the cancer patient is the accessibility to the surgeon of reliable pathological information. One of the great aids in cancer surgery is the availability of frozen section techniques so that biopsy specimens can be diagnosed immediately and the appropriate treatment undertaken at once. Complete eradication of the disease is the primary purpose of surgical treatment of the cancer patient. This is impossible when the disease has spread to regional lymphatics and to other organs. Then, often palliative surgical procedures are of value—either at the site of the primary tumor or its metastases or upon organs influencing the growth of the tumor—testes, ovaries, adrenal cortex, pituitary, etc. Prophylactic cancer surgery includes circumcision, removal of leukoplakia, polyps, junctional

nevi, adenocystomas of breast and thyroid, gallstones, skin nodules, chronically infected and ulcerated scar areas and gastric ulcers.

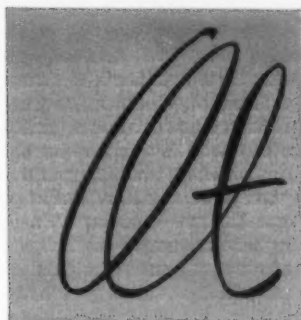
Clark, R. L., Jr.: Surgical treatment of the cancer patient. *Am. Surgeon* 23:336-345, April, 1957.

### Cancer of the Stomach

During a five-year period at the Municipal Hospital, Copenhagen, 225 patients with cancer of the stomach were operated upon. In 149 of these patients the diagnosis was confirmed histologically. In this series the mortality curve for total gastrectomy was above that for resections in its entire course over the five-year period. Survival rate at five years was 13 per cent for total gastrectomy and 33 per cent for resection. After five years, 20 per cent of those patients in whom no glandular metastases were demonstrated, either at operation or histologically, survived. After five years, only 5 per cent of those patients, who underwent radical operation and in whom affected glands were found and removed, survived. There was but little difference in survival between this group and the group in whom palliative operation was done leaving tumor tissue behind, showing that when glandular metastases are found, the possibilities of radical operation are very limited even though all suspected glands are removed at operation. It is concluded that it is only possible to improve the prognosis in cancer of the stomach by operating when no metastases are present in the lymph glands. Total gastrectomy does not improve the prognosis when metastases are absent or present. It is very rarely possible to remove all the tumor tissue when the tumor has first begun to metastasize. In the majority of patients with cancer of the stomach and, at any rate, in practically all the cases with metastases in the lymph glands, the surgeon should envisage the possibility of palliative intervention and the operation should be planned with this in view. Palliative resection may prolong the lives of these patients by some relatively comfortable months.

Jørgensen, J. B.: The results of treatment of cancer of the stomach. *Danish M. Bull.* 5:37-40, Jan., 1958.





## a glance . . .

**one-minute abstracts of the  
current literature on home and  
hospital care of the cancer patient**

### **Home Care of the Cancer Patient**

Caring for the long-term sick in the security of their own homes has many advantages. There is a favorable emotional effect on those patients whose families are willing to accept the responsibility for their care. Home care programs effect financial savings for the patient and for the hospital. Fewer hospital beds are required. Home care programs provide an opportunity for the education of physicians, nurses, social workers, occupational therapists, physiotherapists and other allied personnel in team work in the best interest of the patient. In many cases the administrative problem of bringing all the necessary hospital services into the home may be more complicated than that of making the hospital seem like a home. Personnel required in home care service is listed as follows: physicians, dentists, nurses, attendants, occupational and physical therapists, spiritual and psychological services, social and economic services, social workers and vocational counsellors and administrative services, as hospital administrators and public health workers.

*Munter, E. J., and Berke, M.: The care of the long-term patient: a review of the administration of present programs. J. Chron. Dis. 7:144-177, Feb., 1958.*

### **Home-Help Service for the Aged Sick**

Sheffield, England, over the past few years has developed an active and effective service of home help in care of aged, incapacitated persons, including a group of terminal cancer patients. The help needed by the elderly infirm in their own homes ranges from someone who will regularly spend a few hours doing housework requiring kneeling or stretching, to someone who will pay daily visits and give all the services that would usually be given by a solicitous relative—washing, shopping, cooking, bathing, simple nursing, advising on personal business matters. In short, the home-help service must provide a comprehensive type of social service. Bedridden persons may be kept out of hospitals with the help of a home nurse, relatives and friends, supplemented by a home help. Even a small amount of home help may be sufficient to spare the hospital bed. The greatest difficulty encountered by the Sheffield home-help program is the inadequate supply of home helps compared to the long waiting lists of old people needing the service.

*Wright, C. H., and Roberts, L.: The place of the home-help service in the care of the aged. Lancet 1:254-256, Feb. 1, 1958.*



## Hospital-Home Program

The first completely integrated hospital-home program of patient care combining intramural with extramural service to the sick of any age was given successful test at Montefiore Hospital, New York City, beginning January 1, 1947. In the ten years of operation of this service it has been developed and modified to meet the changing conditions of hospital practices and environment. Enrollment of assistance from the public health services — nursing, social service, etc.—exposes the program to the undesirable interposition of middlemen other than the properly included family physician. It is the general practitioner who alone should integrate the direct union of hospital and home in a continuing program of patient care. If the patient has a legitimate need for a hospital bed for any length of time, that is the best place for him; if he has not such need, it is the worst place for him. The patient should be diagnosed, treated and rehabilitated in the hospital or at home depending on the requirements of his illness. The modern home for the aged is a substitute for the original home and not for the hospital. It should, therefore, function under the direction of the hospital's department of home care. [For detailed account of the Montefiore plan see *CA—Bull. Cancer Progr.* 3:14-18, 1953.]

Bluestone, E. M.: *The combined hospital-home program—a critique; a decade of experience with a new geriatric resource.* *Geriatrics* 12:657-660, Nov., 1957.

provides nursing care for the bedridden patient over a prolonged period. The team caring for the patient in the nursing home consists of the physician, the nurse and the medical social worker. The ideal physician for this work develops a thoughtful, considerate and understanding attitude, showing imagination, clinical curiosity and persistent interest—all directed toward planning advantageous, continuous care for the cancer patient. Almost all cancer patients who have undergone treatment develop emotional problems requiring the services of the medical social worker. If the patient involves others in the emotional problem, the social worker is particularly needed in handling the psychosocial problems encountered. She is also responsible for preparing the cancer patient emotionally for entering the nursing home. Even the selection of a suitable nursing home requires consideration by the physician and the social worker. Its location should be such as to be advantageous from the standpoints of visitors and of the privacy required by the patient's individual emotional reaction and adjustment to his new setting. The physical facilities and staff of the nursing home must meet adequately the physician's recommendations for care. A properly selected and prepared patient can be given ideal care in an appropriately selected institution by an effectively operating team.

Tatro, R.: *The cancer patient and the nursing home.* *Cancer News* 10:16-17, Fall, 1956.

## Hospital in the Home

The home-care programs of (1) the Province of Saskatchewan, (2) the Herbert Reddy Memorial Hospital, Montreal, and (3) the Montefiore Hospital, New York City are described. The generally increasing shortage of hospital beds caused by the increasing life span of the population with its increase in chronic illness necessitates caring for more and more patients outside the hospital, preferably in the home. With proper organization all the services customarily rendered in the hospital with the exceptions of major surgery, radiotherapy, etc., can be given in the

## Nursing-Home Care

The rapidly increasing life span of the population is creating the need for increased facilities for nursing care in chronic illness. Nursing homes are designed for care of patients who have reached a stage of chronic illness requiring professional nursing care without the constant skilled medical care available in the hospital. The nursing home, in contrast to the convalescent or rest home where the patient is expected to carry out his own dressing, feeding and toilet care



home. Teams of social workers, psychiatrists, physiotherapists, occupational therapists, nurses, practical nurses, domestics and physicians are functioning in a number of places to bring the chronic patient at home the same type of care he would receive in the hospital ward. The only limiting factors are distance, poor housing, and work overloading of the physician. None of these obstacles is insurmountable. The social worker plays an important role in the home-care program. The physical and psychic status of the patient and the facilities for his care must be determined before home-care is undertaken. The family's attitude must be studied—willingness to cooperate, financial status, etc. Cost of hospital care in New York City is stated to be \$22 per patient per day compared to \$3.50 in the home. Suggestions are made for the successive steps in developing a home-care program in a community.

Gogan, I.: *Home care—the hospital in the home.* *Canad. M. A. J.* 78:40-43, Jan. 1, 1958.

### Home Care

Every physician knows how hopeless it is to do anything for an old person with a chronic illness simply by calling on him and leaving a prescription. In Hartford, Conn., a home-care plan has been developed over the past four years. It supplies the patient in the home with nursing care, health supervision, speech training, physical therapy, occupational therapy, home-making service, social service and with hospital bed, wheelchair and other supplies not usually available in the home. The workers in each field send periodic reports to the physician in charge of the patient. Every effort is made to keep the patients ambulatory so as to avoid unnecessary hospital expense. Hope was expressed that laboratory service might be added to the plan as this could be of great help to the physician and patient. This home-care plan is being used more and more as physicians learn of its advantages and it is probable that it will be used in many other communities.

Alvarez, W. C.: *The Hartford home-care plan.* [Editorial.] *Geriatrics* 13:342, May, 1958.

### Medical and Ancillary Services in the Home

Every physician should keep himself fully informed of the various resources for the care of the aged and chronically ill in his community. The increasing number of people more than sixty-five years of age is constantly shifting the physician's practice more toward geriatrics. A large percentage of the elderly suffer from chronic and more or less disabling illnesses. The modern trend is to keep these patients at home, in nursing homes or in homes for the aged rather than in the overcrowded general hospitals that do not have necessary beds and facilities to accommodate them. Health and welfare agencies at federal, state and local levels, and the general public are becoming more interested in developing well organized, comprehensive programs for caring for the chronically ill, including the elderly. The medical and ancillary professions now recognize the need for other services in addition to custodial care for people who are permanent residents in nursing homes and in homes for the aged infirm. Even rehabilitation service should be instituted in those cases where there is any hope of results.

Krauss, T. C.: *The modern approach of medical and ancillary services in the home for the aged.* *New York J. Med.* 57:1895-1899, June 1, 1957.

### Homemaking Service

Home care of the chronically ill and aged includes medical, nursing, social and homemaker service. The purpose of the homemaker service is to keep the patient in his own home. Functions of the homemaker include: meal planning, marketing, preparation of meals, organization of the household toward future self care, assistance with bedside care, care of clothing, general care of the home excluding heavy house cleaning. The homemaker should be healthy and strong, have sound judgment and be stable and mature. She should understand and like older people and be able to accept their idiosyncrasies. She should be able to maintain objective



neutrality in situations of family tensions and disagreements. She must have a sincere regard and respect for the patient's feelings about his home, for his property rights and for his beliefs. In many communities procurement of suitable homemaking personnel is the greatest obstacle to effective care of the chronically ill in their own home.

Wilson, R. L.: *Homemaking services for the geriatric patient; based on a study of needs of a California county. Geriatrics* 13:251-253, April, 1958.

### The Nurse and the Laryngectomee

Duties and responsibilities of the nurse toward the laryngectomy patient are presented in hour-by-hour, play-by-play detail. How the nurse takes responsibility for preoperative physical and psychological preparation of the patient is given in step-by-step fashion easy to follow. The patient must be told in advance what to expect concerning loss of voice and in-

structed in how to communicate by note writing, etc. Conversations with a patient who has mastered esophageal speech are helpful. The nurse executes the surgeon's preoperative orders and instructs the patient in the care of his laryngectomy tube. She removes and cleans the tube at intervals of one to two hours during the first and second postoperative days. She must be prepared for any emergency interfering with respiration and a free air-way. The patient's family should be instructed in care of the laryngectomy tube and in the use of the nasal feeding tube, including their dangers. General hygiene instruction should be given to the patient in order to avoid respiratory infections and to promote good health habits of sleep and nutrition. The nurse can do much in the rehabilitation of the patient and in getting him back to work as soon as possible.

Jimison, C.: *Cancer of the larynx. 2. Nursing the patient after laryngectomy. Am. J. Nursing* 57: 741-743, June, 1957.

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### The Art and Science of Medicine

There is a subtle antagonism between the art and the science of medicine: the art is centered on the patient as a person, while the science is centered on the phenomena of disease. They represent two opposing influences in medical thought: one the impulse to help the sick, and the other the compulsion to explain life and its phenomena. As the German surgeon Sauerbruch pointed out: "The humanitarian motive does not occasion an interest in nature such as develops from a detached and impersonal curiosity." The conditions most favourable for the study of disease tend to relegate the patient as a person to the background or to leave him almost entirely out of consideration; as specialism develops, thought becomes concentrated on localized medical problems and interest in the patient as a whole lessens. These two conditions, scientific study and specialism, affecting the doctor-patient relationship in the university hospitals, produced a definite defect in the medical care of patients and created a weakness in the American plan of medical education.

—G. Canby Robinson: *Adventures in Medical Education*. Published for The Commonwealth Fund by Harvard University Press. Cambridge, Mass. 1957.

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### Nursing Exhibit on Cancer of the Breast

A new professional exhibit for nurses on CANCER OF THE BREAST is available through the Divisions and Units of the American Cancer Society. Detection, treatment and rehabilitation are emphasized. Among the topics presented are: importance of breast self-examination, breast cancer probability figures, surgical and radiation therapy, pathways of metastatic spread, importance of early diagnosis and exercises for restoration of arm function after radical mastectomy.



# Communication Between the Doctor and the Cancer Patient

Arthur M. Sutherland, M.D.

There is perhaps no part of medicine where communication between doctor and patient is both more important and more difficult than when the patient has cancer. He faces the threat of a potentially crippling and fatal disease. He must frequently be persuaded to undertake extensive or mutilating surgery or submit to other and often unpleasant forms of treatment. If cancer becomes advanced, the physician has the problem of maintaining his patient's morale even though the patient progressively deteriorates.

Every person who deals with patients—doctor, nurse and social worker—has heard of the importance of "a good rapport" with the patient. Rapport is defined in the dictionary as "an intimate and harmonious relationship." It is obvious that this cannot be achieved unless there is an interchange of information satisfactory to all concerned. The severe threats to health, and even to life, implicit in cancer and its therapy make it imperative that the patient and professional personnel reach mutually satisfactory understandings. At the same time, unfortunately, these threats render understandings harder to achieve. Both the need for, and the difficulty of, communication are tested by those perennial recurrent questions—"should the doctor tell the patient he has cancer" or "should the patient know the truth?"

These questions have no logical answer because they are based on assumptions which are not true. These assumptions are that there is a standard cancer, a standard patient and a standard physician. A basal-cell epithelioma on the upper face carries with it a prognosis and course of therapy wholly different from a bronchogenic carcinoma. Obviously problems created by a lesion wholly curable by minor surgery are substantially different from those cre-

ated by a lesion doubtfully curable by major surgery.

Cancer does not confine itself to any personality type, social class, ethnic group or other categories to which human beings can be assigned. Its victims represent a cross section of the human family: the rich, the poor, the wise, the foolish, the educated, the ignorant, the sophisticated and the superstitious. Moreover, the meaning of a threatening disease and its formidable therapy to any one patient is so highly individual that his responses to his ordeal cannot be easily predicted even by the experienced. There is no standard patient.

There have developed in the lay mind, and sometimes in the professional mind as well, certain stereotypes or caricatures of medical personnel. There is the bluff and hearty surgeon, the kindly, gentle general practitioner, the brooding and rather peculiar psychiatrist or the beautiful nurse with cool hands. These stereotypes do not always hold true. The medical and auxiliary profession is composed of a vast number of people who differ widely among themselves, whose values are profoundly different and whose tactfulness and sensitivity to the needs of others or the ability to allay the anxiety they arouse are by no means uniform. There is no standard doctor.

"Should the patient know the truth?" is not a very practical question. In fact, the patient is rarely told the whole truth, and as rarely nothing but untruths. The woman with carcinoma of the breast and positive nodes at level III is rarely told that she has a 20 per cent chance of living five years. On the other hand, the patient with recognized treatable cancer is rarely told that he needs no treatment—which would be a course of action consistent with lying to the patient.

What is the purpose of communicating

*Associate Attending Physician and Psychiatrist,  
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information to the patient? Is it to make him a student of his own disease or to make him aware of all the threats to his health and survival, or is it to arouse guilt and fear so that whatever results therapy achieves are vitiated by anxiety? Our purpose is really to achieve a state of mind in the patient so that he can cooperate fully in his treatment with a minimum of anxiety. Any information for other ends is superfluous. Each patient and each type of disease and the tact of the informant will set the limits on the nature and extent of the information imparted. This is a truly pragmatic approach. It is in conflict with the notion that every patient has a "moral right" to know the "Truth." Its only justification is that it usually works.

The fascinating subject of nonverbal communication, which is receiving attention at the present time, can be dealt with here only superficially. Communication between two human beings in a face to face encounter is not limited to the verbal exchange. Everyone is aware of how a tone of voice or the circumstances in which a statement is made can profoundly alter its meaning. Indeed, every aspect of the situation in which communication is attempted enters into the final form in which that communication is finally received. Thus, the manner in which information is imparted, and even the setting, may be far more important than its verbal content to its reception.

The patient may seek information without ever asking about it, and indeed may be unaware that he is seeking answers to questions. For example, any patient is very anxious to know if the doctor is capable or interested in him as a person, yet these questions are almost never asked in words. The answers to these questions come in the nonverbal clue. What information the doctor verbalizes is always mixed with these unasked but always answered questions. The patient seeks information as a guide to action. Nonverbal is just as important as verbal information. Attitudes, both positive and negative, are expressed and received a thousand subtle ways.

When two people meet they seek to find out what each other is like and to fix each

other into the scheme of human relationship, that is, to identify each other. "I'll look him over." Individuals of similar backgrounds, having identified each other, know at once that they share similar attitudes, values and experiences. This "knowledge" is instantaneous, differences in values appear only later. The opposite is true when backgrounds are dissimilar. Differences may be all that can be seen at first and similarities of viewpoint may not be revealed until later. Similarities in background, or in attitudes, values and experiences facilitate communication inasmuch as they form the frame of references in which both verbal and nonverbal communications are received. They permit the meaningful transmission of messages, "They speak our language."

When similar contexts are lacking, or when misidentification occurs, communication may be nearly impossible on any except the simplest level, and even then is subject to distortion. Each individual assumes a set of values and experiences not possessed by the other. If a physician, or other medical person dealing with patients, assumes that all patients, regardless of education, intelligence or social and economic status, have the same values he has, he will find out only too frequently that he misunderstands and is misunderstood. It is a maxim in psychiatry that one must not impose one's own values on any patient and it is equally true one must not assume that the patient already possesses these values. The physician must be agile in seeking out the frame of reference in which each patient operates, to avoid—"he talked over my head."

Anxiety, which every cancer patient has, is a very formidable barrier to communication. It causes distortions, unwarranted shifts of emphasis, and inability to comprehend or remember or even to hear. If the physician wishes to be sure his patient understands what he is told, he must first allay disruptive anxiety. He does this probably more by nonverbal than verbal means. He creates the atmosphere in which trust is possible. And this is accomplished far more by listening to the patient than by lecturing to him. The physician



cannot reassure the patient if he doesn't know exactly what is troubling him. The patient is only too aware of this, and finds it difficult to accept reassurance from a physician who does not know what he is fretting about. Time spent early in the course of the disease in establishing good two-way communication pays enormous dividends later, both in time and ease of management. The patient feels better, too.

Almost all patients carry as implicit but unformulated assumptions their views on how the universe works, and included in this is their own private science of physiology. Their notions about physiology, which are usually erroneous and almost always incomplete, are frequently sources of anxiety and unnecessary invalidism and are potent barriers to effective communication. It is hard to convince a woman that she can resume her life activities if she believes that the removal of her breast has injured her heart and lungs.

The physician must seek out and refute these assumptions, as they render information unacceptable, make the truth appear to be a lie, and the doctor a liar. It must never be assumed that these assumptions do not exist or are not potent determinants of both communication and action.

Rather than knowledge about cancer and its surgical maneuvers, the patient is more interested in the possibility of cure, what limitations he may expect and advice on how to conquer them. He does not want to be dependent upon the physician but he does regard him as a source of excellent information which he will use as a guide to achieve his own rehabilitation. He prefers specific advice that has mean-

ing within his life situation. He is only confused by generalities such as not to do "too much" or "take it easy." He complains that the "doctor never tells you anything" and "before I open my mouth, he's gone. You are only a chart to them." Doctors often assume unnecessary obscurantism in dealing with their patients. This charge is based less upon their failure to discuss diagnoses than to provide a patient a realistic guide to his activities. It also arises when there had not been set up an atmosphere of easy communication so that a patient does not feel free even to talk to the doctor, much less to ask him a question.

The problems of communication between medical personnel and cancer patients are found in all areas of medicine where serious disease is encountered. They are not peculiar to the field of cancer, but only possibly more frequent and more publicized. The interest in what the doctor tells the patient has obscured the fact that communication is two-way, that what the patient tells the doctor may be just as important to the patient as what the doctor tells the patient. When the patient feels he can express his fears and pre-occupations and receive both a sympathetic hearing, and guidance consistent with his values and life situation, diagnostic information becomes less important and less troublesome to both physician and patient. The physician, nurse or social worker who takes the time to set up workable communication with the patient, has a much less anxious and more easily managed patient.

The art of communication is an essential ingredient of the art of medicine.

### Suggested Readings

1. Bogdonoff, M. D.: The effect of the physician's "psyche" upon the patient's "soma." *Ann. Int. Med.* 46:886-892, 1957.
2. Finesinger, J. E.: Psychiatric interviewing; some principles and procedures in insight therapy. *Am. J. Psychiat.* 105:187-195, 1948.
3. Finesinger, J. E.; Shands, H. C., and Abrams, R. D.: Managing the emotional problems of the cancer patient. *CA—Bull. Cancer Progr.* 3:19-21; 24-31, 1953.
4. Fitts, W. T., Jr., and Ravdin, I. S.: What Phila-

delphia physicians tell patients with cancer. *J.A.M.A.* 153:901-904, 1953.

5. Forkner, C. E.; Binger, C.; Brownell, G. A.; Speers, T. C.; and Sutherland, A. M.: Should patients be told the truth about serious illness? *New York Med.* 13:14-21; 32-42, 1957.

6. Ruesch, J., and Bateson, G.: *Communication: The Social Matrix of Psychiatry*. New York. W. W. Norton & Company, Inc. 1951.

7. Sutherland, A. M.: The psychological impact of postoperative cancer. *Bull. New York Acad. Med.* 33:428-445, 1957.



# Nursing Care of Cancer Patients in Hospital and Home

*Renilda Hilkemeyer, R.N.*

Every professional nurse has a definite responsibility in cancer control and cancer nursing whether actively engaged in institutional, public health, industrial, private duty, office nursing, or even if she is inactive. With a steady increase in the cancer death rate since 1934, cancer now ranks as the second cause of death in the United States. The mortality rate for cancer in 1957 was 147 per 100,000 population. There are 245 new cases per 100,000 population per year. Present rates indicate one in every four persons now living will develop cancer.

Cancer is no respecter of age or sex. It is the leading cause of death from disease in children under 15 years of age and in women between the ages of 35 and 55. More men than women die of cancer; the proportion is 53 to 47.

Twenty-five years ago, the survival rate was 20 per cent, but with earlier diagnosis and treatment it has increased to 35 per cent.

In 1955, the majority of men who died because of cancer had the disease in the following sites: digestive tract, including stomach, 37.5 per cent; respiratory sys-

tem, including lungs and larynx, 20.0 per cent; and prostate, 10.7 per cent. The majority of women who died because of cancer had the disease in the following sites: digestive tract, including stomach, 33.7 per cent; genital tract, 20.1 per cent; and breast, 19.0 per cent.

What are the implications for the nurse? In every community, she will find: (1) the potential cancer patient, (2) the individual with suspicious signs or symptoms of cancer, (3) the patient who is being treated or has completed treatment and (4) the terminal cancer patient. Each group is of interest to the nurse.

Educational efforts are directed to the cancer potential group, toward the preventive aspects such as: (1) alerting individuals to heed the "seven danger signals," (2) re-emphasizing that every doctor's office is a cancer detection center and (3) encouraging a yearly physical examination, including pelvic and rectal. The nurse can explain that the exfoliative cytologic technique is the aspiration method of taking a vaginal smear that is used to detect early uterine cancer. By explaining that this procedure is painless and that a pelvic examination is important, the nurse can assist women in overcoming

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Fig. 1. Team: doctor, nurse, social worker.



Fig. 2. Report to incoming nurse.



their fear and sense of false modesty concerning pelvic and vaginal cytological examinations.

If the local medical society approves and pathologists are available to read the smears, the nurse can assist in arranging for showings of the ACS film on exfoliative cytology, "Time and Two Women." She can encourage women to learn breast self-examination by utilizing the film "Breast Self-Examination." Local cancer societies have physicians available on their Education Committees or Speaker's Bureaus to assist in such programs.

The nurse, by education as well as by setting an example in health practices, may contribute to the cancer detection program.

Some individuals may be unaware of suspicious signs and symptoms of cancer or may delay seeking medical care because of fear of a diagnosis of cancer. An alert nurse should recognize symptoms by applying her basic knowledge of the disease. By establishing good rapport, and by being a good listener, she may elicit information of signs and symptoms which may seem unimportant to the patient. These seemingly unimportant symptoms or signs may be: the lump in the breast "which causes no pain," the bleeding or spotting between menstrual periods often blamed on "overexertion or change of life," bleeding from the rectum "probably from hemorrhoids," persistent indigestion blamed on "food which did not agree with me" or petechia or a tendency to bleed or bruise easily in the tired irritable

child "who played too hard." She emphasizes that these are not normal conditions and encourages the patient to see the physician. She senses the patient's feelings and fears, and can point out the hopeful outlook for the cancer patient with early diagnosis and treatment. She is in a position to discuss recognized methods of treatment of cancer by surgery and radiation. She can relay pertinent information to the physician, which may assist him in making diagnosis. While it is important to remember that cancer should not be a word to which stigma is attached, the nurse may have learned that the word "tumor" or "growth" is more acceptable to the patient.

When diagnosis has been established, the question arises as to what the cancer patient should be told. This decision is one which the physician must make, based on his knowledge of the disease and the individual who has the disease.

Whatever decision is reached, there are two important factors. First, the patient should be told something. If it is not feasible to tell the patient his diagnosis and prognosis, enough information should be given the patient to allay his fear and gain his cooperation.

The second important factor is that the doctor, nurse, patient's family, social service worker, minister and other members of the health team, should know what information has been given the patient. The nurse, in turn, will assume responsibility for giving necessary information to other members of the nursing team. This cannot



Fig. 3. Supervisors' conference.



Fig. 4. Self care.



be overemphasized because of the number of nonprofessional personnel who give direct nursing care to patients. An uninformed worker, either by word or action, can impart information not intended for the patient. If the patient is not told, he frequently suspects that he has cancer. He may decide to conceal the fact, or he may attempt to elicit information by some means.

Knowing what the patient has been told, the nurse is in a position to support and reinterpret the physician's plan of treatment. For example, the laryngectomy patient who knows he is coming from surgical resection without speech can be reassured before the operation that the nursing staff will be readily available to anticipate his wants. He should know that he will use a slate and pencil to communicate. Later he may learn esophageal speech.

The nurse should be cognizant of the emotional support which will be needed by the patient and the family when the impact of the diagnosis of cancer is realized. She needs to understand that denial, resentment or open hostility to herself, physician or other members of the staff are defense mechanisms against a final acceptance of diagnosis and plan for treatment. The patient's initial reaction may well be "this cannot happen to me."

Both the hospital nurse and the public health nurse can assist the parents of children with leukemia and lymphoma who are informed of the diagnosis and plan of treatment. The need is often greater where

families are separated if the policy of the institution permits one parent to stay with the ill child at all times.

Where a mother stays with the ill child, she participates in the care of the child by bathing, feeding, diapering, dressing, taking the temperature and keeping the child entertained. The nurse supervises these activities and assumes responsibility for professional aspects of nursing care. Because the child may be critically ill during these periods and hospitalization may be for repeated or extended periods the nurse needs to be alert so the parent does not become fatigued physically or mentally.

In Cobb's study of doctor-nurse-patient relationship, it was felt that the emotional needs of the cancer patient could best be met by a warm, friendly personality, an attitude of empathy rather than sympathy and skill in communications. The mental health of the patient depends on the support given by members of the health team and family. The nurse, because of her close patient contact, needs to be alert to problems which may be hindering the patient's progress. It is just as important for her to know that the patient is upset because of an ill child at home as it is to know that a new medication has been ordered.

It is important that all members of the health team share information which may aid in the care plan for the patient. Current social service notes should be an integral part of the patient's record just as are the doctor's progress notes and the nurse's notes.

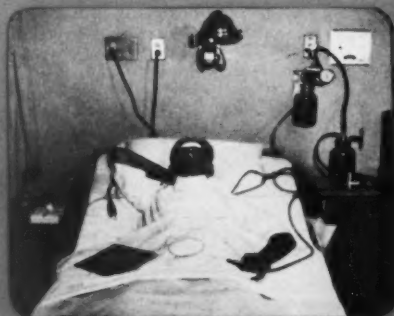


Fig. 5. Laryngectomy patient.



Fig. 6. Self care.



When the diagnosis of cancer has been made, treatment is begun without delay. Treatment, whether by surgery or radiation, is directed toward eradication of the disease. In the curative surgical approach treatment is directed at removal of the local area of disease as well as the areas of lymphatic spread. It is important that the patient understand the reason for the "radical" surgery. It seems drastic to the patient with cancer of the breast that such a small lump will mean wide removal of the breast together with axillary nodes. With metastatic spread, x-ray therapy may be employed in addition to surgery.

It is helpful if both patient and family know that surgical procedures for cancer take longer than a simple appendectomy. Such information can allay the fear of an anxious relative when the patient remains in the operating room for a long time.

Surgery, radiation and chemotherapy are used as palliative measures by relieving pain or by giving temporary remission of disease. During the preoperative period the nurse should be able to reinterpret to the patient the various tests and procedures which are done as well as to indicate what may be expected postoperatively. Sometimes patients are termed "uncooperative" when adequate explanations would have secured the necessary cooperation.

The same principles of nursing apply to the cancer patient as to any other surgical patient. Physicians' orders will usually include provision for: early ambulation, maintenance of fluid balance, medications for pain relief, antibiotic therapy and

treatments and dressings dependent upon site involved.

We sometimes forget how frightening the postoperative period is to both the patient and family. A simple explanation given by the nurse can allay fear and gain the patient's and family's cooperation. For example: the head and neck patient receives intravenous blood or fluid to replace fluid lost during the operation, the tracheostomy tube serves as the patient's airway, the Levin tube is necessary to keep the stomach emptied to prevent vomiting and aspiration of fluid into the lungs, the catheters placed under the skin flaps connected to suction and the pressure dressing prevent accumulation of fluid under the flaps and promote healing, and the slate and pencil are used to communicate.

Patients and families frequently have less understanding when treatment is by radiotherapy—whether roentgen-ray, radium or radioisotopes as cobalt-60, gold-198, iodine-131 and phosphorus-32. Families may question whether the patient receiving radiation therapy is dangerous to them, particularly since the irradiated patient may be treated on an outpatient basis. They should be assured that radiation ceases when the machine has been removed from the patient.

Patients who are treated with radium do emit radiation while it is in place. For this reason visitors are usually limited to thirty minutes a day. Since patients are not returned home with radium in place no danger exists to the family at home.

*(Continued on page 128)*



Fig. 7. Radiation protection for nurse.



Fig. 8. Film badge register exposure.



# SYMPOSIUM ON CANCER OF

## SCIENTIFIC PROGRAM OF THE AMERICAN CANCER SOCIETY, B

Monday, October 20, 1958

—Morning Session—9:00 A.M.

### CHAIRMAN:

Dr. David A. Wood  
University of California  
School of Medicine  
San Francisco, California

### PATHOGENESIS AND ETIOLOGY OF CANCER OF THE COLON AND RECTUM

#### PATHOGENESIS

Dr. Elson B. Helwig  
Armed Forces Institute of Pathology  
Washington, D. C.

#### PATHOGENESIS

Dr. Gilbert Dalldorf  
The National Foundation for  
Infantile Paralysis  
New York, New York

#### PATHOGENESIS

Dr. Ferdinand C. Helwig  
St. Luke's Hospital  
Kansas City, Missouri

#### ETIOLOGY

Dr. Cuthbert E. Dukes  
St. Mark's Hospital  
London, England

### PANEL: PATHOGENESIS AND ETIOLOGY OF CANCER OF THE COLON AND RECTUM

Moderator: Dr. Cuthbert E. Dukes

Participants: Drs. E. B. Helwig, Dalldorf,  
F. C. Helwig, Wood.

Monday, October 20, 1958

—Afternoon Session—2:00 P.M.

### CHAIRMAN:

Dr. Eugene P. Pendergrass  
University of Pennsylvania  
School of Medicine  
Philadelphia, Pennsylvania

### DIAGNOSIS OF CANCER OF THE COLON AND RECTUM

#### THE IMPORTANCE OF THE DIGITAL AND SIG- MOIDOSCOPIC EXAMINATION AS A ROU- TINE PROCEDURE

Dr. Rupert B. Turnbull  
Cleveland Clinic  
Cleveland, Ohio

#### TECHNIQUE OF DIGITAL AND SIGMOIDOSCOPIC EXAMINATION

Dr. Raymond J. Jackman  
Mayo Clinic  
Rochester, Minnesota

#### X-RAY EXAMINATION

Dr. Fred J. Hodges  
University of Michigan Medical School  
Ann Arbor, Michigan

#### EXFOLIATIVE CYTOLOGY IN DIAGNOSIS OF LESIONS

Dr. Howard F. Raskin  
University of Chicago Clinics  
Chicago, Illinois

#### EARLY CLINICAL MANIFESTATIONS

Dr. Henry L. Bockus  
University of Pennsylvania  
Graduate School of Medicine  
Philadelphia, Pennsylvania

### PANEL: DIAGNOSIS OF CANCER OF THE COLON AND RECTUM

Moderator: Dr. Henry L. Bockus

Participants: Drs. Turnbull, Jackman,  
Hodges, Raskin, Pendergrass



# OF THE COLON AND RECTUM

ETY, BILTMORE HOTEL, NEW YORK CITY, OCTOBER 20-21, 1958

Tuesday, October 21, 1958  
—Morning Session—9:00 A.M.

## CHAIRMAN:

Dr. Warfield M. Firoz  
Johns Hopkins Hospital  
Baltimore, Maryland

## MEETING THE PROBLEM OF SPREAD OF CANCER OF THE COLON AND RECTUM

### LYMPHATIC SPREAD

Dr. Richard K. Gilchrist  
University of Illinois  
College of Medicine  
Chicago, Illinois

### METASTASIS

Dr. J. Englebert Dunphy  
Harvard Medical School  
Boston, Massachusetts

### RADIATION THERAPY

Dr. Ulrich K. Henschke  
Memorial Center for Cancer and Allied  
Diseases, New York, New York

### AN ASSESSMENT OF THE SPREAD OF CAR- CINOMA OF THE COLON AND RECTUM INTO THE BLOOD STREAM, BODY CAV- ITIES AND LYMPH NODES

Dr. George E. Moore  
Roswell Park Memorial Institute  
Buffalo, New York

### PROPHYLACTIC MEASURES IN THERAPY OF CARCINOMA OF THE COLON AND RECTUM

Dr. Warren H. Cole  
University of Illinois  
College of Medicine  
Chicago, Illinois

### PANEL: MEETING THE PROBLEM OF SPREAD OF CANCER OF THE COLON AND RECTUM

Moderator: Dr. I. S. Ravdin  
University of Pennsylvania  
School of Medicine  
Philadelphia, Pennsylvania  
Participants: Drs. Gilchrist, Dunphy,  
Henschke, Moore, Cole, Firoz

Tuesday, October 21, 1958  
—Afternoon Session—2:00 P.M.

## CHAIRMAN:

Dr. Frederick A. Collier  
University of Michigan Medical School  
Ann Arbor, Michigan

## TREATMENT OF CANCER OF THE COLON AND RECTUM

### PREOPERATIVE PREPARATION

Dr. Howard A. Patterson  
Columbia University  
College of Physicians and Surgeons  
New York, New York

### ABDOMINOPERINEAL RESECTION

Dr. Calvin M. Smyth  
Abington Memorial Hospital  
Philadelphia, Pennsylvania

### THE ANTERIOR RESECTION AND "PULL- THROUGH" PROCEDURES

Dr. George A. Hallenbeck  
Mayo Clinic  
Rochester, Minnesota

### RESECTION OF RIGHT AND LEFT COLON LE- SIONS

Dr. Leland S. McKittrick  
Harvard Medical School  
Boston, Massachusetts

### COLOTOMY AND COLOSCOPY

Dr. Michael R. Deddish  
Memorial Center for Cancer and Allied  
Diseases  
New York, New York

### PANEL: TREATMENT OF CANCER OF THE COLON AND RECTUM

Moderator: Dr. Claude E. Welch  
Massachusetts General Hospital  
Boston, Massachusetts  
Participants: Drs. Patterson, Smyth, Hal-  
lenbeck, McKittrick, Deddish, Dukes,  
Collier, Mr. Lockhart-Mummery.



Radioactivity from radioisotopes varies with the dosage. Visitors are usually restricted to thirty minutes daily. Since it is assumed that patient radioactivity is at a safe level prior to discharge from the hospital no danger exists to the family.

The National Committee on Radiation Protection has recommended maximum permissible levels for employees who work with radiation or who care for such patients. These maximum permissible levels are not more than 300 milliroentgens per week, 1200 milliroentgens per month or 15,000 milliroentgens per year.

A film badge is used to record the amount of radioactivity the employee receives. Employees should remember these rules for protection: (1) speed—work as quickly as possible, (2) distance—keep as much distance between yourself and the patient as possible and (3) shielding—use lead shielding when preparing or handling radioactive materials.

A common misconception is that the patient receives a "burn" while undergoing x-ray treatment. The erythema, or moist reaction, is a normal result of treatment. With proper care by keeping the area clean and preventing infection, healing occurs. Patients are instructed to leave the area exposed. Bathing, shaving, rubbing with alcohol or other astringents, dressings and adhesive tape are not permitted. Lanolin ointment is usually applied to promote healing.

Rehabilitation of the patient is an important part of the total treatment plan. Rehabilitation, as defined by the National Council on Rehabilitation in 1943, "is the restoration of the handicapped to the fullest mental, social, vocational and economic usefulness of which they are capable." Helping the patient to self care is an important step in rehabilitation. Every physician and nurse has a responsibility for patient teaching. It is important to re-

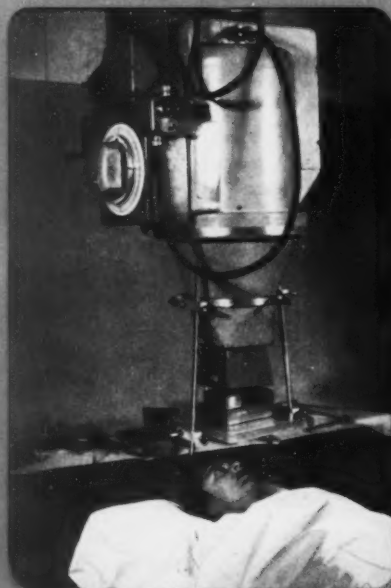


Fig. 9. Cobalt-60 therapy.

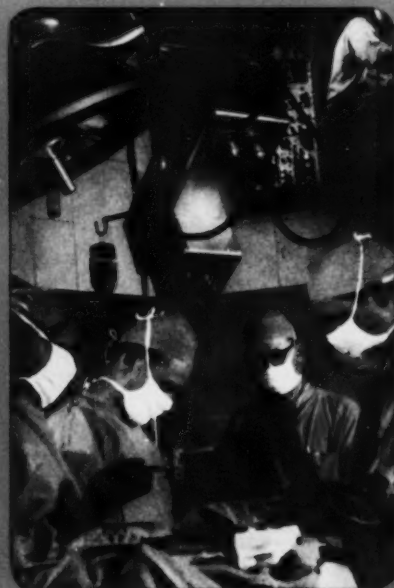


Fig. 10. Nurse on the operating-room team.



member that: (1) teaching should begin early, (2) adequate time is needed and should be considered by the physician in discharge plans for the patient, (3) simple written instructions are indicated, (4) home equipment should be purchased prior to discharge from the hospital and should be the same as used in the hospital, (5) the family should be instructed in order that they can encourage the patient in self care and are prepared to assist when needed and (6) the public health nurse should come in when feasible so she can learn the care plan for the patient.

Continuity for patient care can be accomplished when information is shared by the community public health nurse prior to the patient's admission. According to the Joint Committee on the Integration of Social and Health Aspects of Nursing, the hospital nurse who has cared for the patient is the one who can best make the referral to the community nursing agency. The physician, medical social worker, nutritionist and other hospital personnel should add pertinent information or instruction which will improve the patient's care at home. The nurse can re-emphasize the importance of follow-up to determine if the cancer is controlled.

State and local cancer societies may provide financial assistance to Visiting Nurse Associations to provide care for needy cancer patients. Local cancer societies may provide dressings, loan closet materials, transportation, drugs, volunteer home visitors and other services to aid the cancer patient.

The terminal cancer patient is one whose disease cannot be controlled, and efforts are directed toward pain relief to keep the patient as comfortable as pos-

sible. Many terminal patients are not bed-fast and many do not have open lesions. The nurse should have a knowledge of how much the patient and family have been told. She can encourage a hopeful instead of a hopeless outlook. Families need to be taught simple bedside nursing care to keep the patient comfortable, as bathing, changing linen as needed, keeping linen free from wrinkles, alcohol back rubs and changes of position to aid in prevention of bedsores. Application of tincture benzoin, gentian violet, cod liver oil and cortisone ointment are sometimes used to promote healing. Air fresheners, some available in spray cans for easy use, aid in odor reduction. However, emphasis should be placed on keeping the patient clean and changing dressings frequently as the best preventive of odor.

Adequate nutrition needs to be maintained. Frequently high protein and high caloric diets are ordered. If oral feeding cannot be taken, tube feedings may be necessary. These may be given by inserting a nasogastric tube. A small irrigating can to which rubber tubing with a clamp is attached to regulate the flow of feeding may be used. Eggs, milk, malted milks, cereals, soups and pureed vegetables may be used for feedings. Vitamins and minerals may be added to the diet. Skimmed milk or high protein supplements may be used. Since patients' appetites may be poor, small feedings served attractively six times daily may be more digestible than larger, less frequent meals.

Each nurse has an obligation to keep informed of current developments in the cancer field in order that she may function effectively. The nurse can contribute much to a cancer control program.

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## KINESCOPE K 29 THE PSYCHOLOGICAL ASPECTS OF CANCER

This kinescope is available through your Division of the American Cancer Society. Running time: 39 minutes; 16-mm. color with sound.

Arthur M. Sutherland, M.D.  
Associate Attending Physician and Psychiatrist  
Memorial Center for Cancer and Allied Diseases  
New York City

Morton Bard, Ph.D.  
Associate Research Clinical Psychologist  
Memorial Center for Cancer and Allied Diseases  
New York City

Ruth B. Dyk, M.A.  
Psychiatric Social Worker  
Memorial Center for Cancer and Allied Diseases  
New York City

This presentation deals with the psychological impact of cancer. It presents the point of view that the reactions of patients to cancer are intimately geared to phases of treatment, and represent an interaction between the patient's anticipations and the events that are taking place. Therefore, reactions are highly individual for each patient and each stage of diagnosis and treatment. The reactions frequently observed—anxious, depressive, hypochondriacal, compulsive and paranoid—are discussed and suggestions for management presented. Illustrations are given of the relationship between preoperative fears of surgery and the development of postoperative psychogenic invalidism. The role of the physician and surgeon is discussed, with special reference to paranoid reactions directed against them. The impact of the experience of illness on the family and the family's role in the treatment and rehabilitation of the patient are stressed.

APPROVED FOR INFORMAL STUDY CREDIT BY THE  
AMERICAN ACADEMY OF GENERAL PRACTICE

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The aid of the family pastor in incurable cancer is often of greater benefit than psychotherapy or further palliative procedures any physician can offer.

*Taylor, S. G., III, and Slaughter, D.: The physician and the cancer patient. J.A.M.A. 150:1012-1015, Nov. 8, 1952.*

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### United vs. Independent Giving

... experience has shown beyond argument that the Cancer Society can raise more money on its own for its program of education, service to patients, and research than it can in an omnibus [federated or united] appeal in which it is practically anonymous ... to take away from a free and intelligent people their privilege—indeed, their duty—to exercise judgment in their philanthropy is to relieve the conscience of one more responsibility, the social and personal consequences of which are not pleasant to consider. It behooves every doctor in the land to ponder well the fate of his allies—the voluntary health agencies.

*Editorial: CA—Bull. Cancer Progr. 5: Nov., 1955.*



# Social Service and the Cancer Patient

*Janet Wien, M.S.S.W.*

The cancer patient, like all patients, may accept his diagnosis or he may deny it; he may be concerned about how his illness will affect his future and that of his family; he may worry about the expense of his medical care. In these respects he may not differ from patients with any serious, long-term illness. Each patient will react differently to his illness.

The word cancer usually connotes terminal illness and death, and yet to each individual this means something different. It may mean suffering to one individual; it may mean relief from anxiety and escape from an intolerable situation to another; it may mean giving up one's life work to still another. Each one's reaction to illness is an individual matter based on his life's experiences and his methods of handling crises in the past.

In a paper of this type, only a few social service aspects can be presented. In order to select some of the most common ones, we reviewed the records of cancer patients referred to the social workers at Duke University Medical Center. During a three-month period there were fifty such patients, at various stages of diagnosis and treatment. For some the diagnosis was not yet verified, for some the prognosis was excellent, for some immediate terminal care was recommended. Although these patients were referred to the social worker for a variety of reasons, many of the same fears were present in all the patients. The ease with which the patient could discuss his fears varied from the one who recognized his anxiety, freely talked about it and wanted help with it, to the one who denied he had any fear, but by his very actions divulged that he had.

In the fifty patients studied certain patterns repeated themselves. The three problems most frequently found were: financial planning for medical care, problems in

family relationships and emotional problems in the acceptance of the diagnosis or plan of treatment.

## Financial Planning

It is not unusual in these days to find the financing of medical care a real burden. Medical care is expensive. In February, 1958 the consumer price index for medical care was 141.9 compared to the 1947 to 1949 average of 100. This was an all-time high. Any chronic illness may be accompanied by anxiety, not only concerning the cost of medical care itself, but also concerning lack of income when the wage earner is affected. After a diagnosis of cancer is made, periodic hospitalizations may be required for certain examinations, operations or other treatments. Depending upon the location of the tumor, radiation therapy may be recommended for a period of time. Many patients do not have enough savings to take care of medical emergencies.

Sometimes the patient focuses his concern on the financial problem because he can talk about this more easily than about his disease. However, a skillful social worker may learn that the patient must first be helped in other areas before he can be helped in the financial problem.

Mr. Smith, aged 49, was working on a road gang when he was hit in the chest by a plank. A former carpenter, he had not worked for several months due to pain and finally he consulted a local physician who referred him to the medical center. Following studies in the hospital, he was diagnosed as having cancer of the lung. X-ray therapy for five weeks was recommended but Mr. Smith said he could not afford it and he was referred to the hospital social worker.

In discussing the recommendations with the social worker, Mr. Smith said quietly and slowly, "I'm going home and kill myself." He described the vari-

*Director, Social Service Department, Duke University Medical Center, Durham, N. C.*



ous guns he had, pointing out the advantages and disadvantages of each, and went into detail concerning his suicidal plan. He told the worker that many years ago he and a former friend had frequently discussed various illnesses. Both had said that if they ever had cancer they would kill themselves. The friend later learned that he had cancer and he committed suicide. Mr. Smith was the first person to find him. The patient felt that he had many reasons to kill himself and outlined these to the worker. He could not tolerate the pain and he understood that even narcotics would not control it in the terminal stage; he "would go crazy" sitting at home every day unable to carry out his usual activities; he had lived a full life; and he felt he would be a burden to his wife physically and financially.

Before the social worker could help Mr. Smith with his financial problem, it was necessary to help him with his feelings about cancer. She was able to let him discuss how he felt and at the same time she gave him support, recognition and understanding of the difficulty he was experiencing. When Mr. Smith was finally able to see that his reasoning was based on selfish motives and that he had really not taken into consideration the real feelings of his wife and children, the social worker was able to help him with his financial planning.

Mr. Smith would need eighty-four dollars for a course of radiation therapy. Since he could not get treatment in his local community, he would have to board and room in town for five weeks. The expenses were itemized for him and with casework help he was able to apply to the county welfare department both for help with the medical care and for long-term assistance through the Aid to the Permanently and Totally Disabled Fund.

### **The Family**

For some time now, medical education has stressed the importance of the total individual. "We do not treat a sick organ but a sick person," the students are taught. Such emphasis is necessary because of the degree to which specialization has developed. Today the trend is to treat not a sick

person but a sick family. An individual is not an isolated being but is part of a family group.

In our fifty cases, the family members played an important part. Knowing the inter-relationships between the patient and his family group was necessary before the social worker could help the patient follow medical recommendations.

In some instances, the relationship of the patient with his family determined whether he would stay in his home or go to a nursing home or institution during the terminal stages of his disease. We found that many of the families could not accept any plan except that of caring for the patient in his own home. Sometimes the relatives considered other plans would be rejection of the patient and this they could not face. On the other hand, some patients stated they could not return home because the family had so many responsibilities of their own that the patients could not add to their burdens. Usually, after talking with members of the family, the social worker learned that the family really wanted the patient to return home and with help the family was able to help the patient realize he still had a place to fill in the family circle.

It was not unusual to find that some families needed more help than the patient in accepting the diagnosis of cancer. It is true that some families tended to over-protect the patient either physically or emotionally. For example, the children's problems were kept from a mother so that she felt left out and unwanted.

Sometimes the familial relationships were precarious and actually interfered with the patient's ability to make use of medical care.

Mrs. Holmes' worries about her family might have interfered with her accepting the medical recommendation, had she not been referred to the social worker. This 37-year-old woman was hospitalized with cancer of the cervix with extensive metastases. She was eager to leave the hospital because she was concerned about her husband's drinking and the care of the four children at home. Mrs. Holmes described her husband as a heavy drinker and



although he earned eighty dollars a week as a mechanic, he gave her only twenty-five dollars for rent, food and clothes. She had not been able to manage on this amount so had to depend financially on her brother and her 19-year-old son who was out of the home. The married daughter had been caring for the four children during her hospitalization. Her brother had a farm and was able to help with the food. The social worker was able to talk with the patient's brother and with the two older children, all of whom were very close to the patient. Unfortunately all attempts to reach her husband were unsuccessful. By helping the patient see that her brother and son wanted to help her and the family, and were understanding and not resentful of her situation, Mrs. Holmes was able to remain in the hospital and carry out her medical treatment.

Some of the social worker's success is based on her knowledge of the patient's environs, his physical surroundings at home, his relationships with his family group, the resources in his community. A closely knit, supporting family can give a patient inner strength to help him through the most critical period of his life. On the other hand, the attitudes of a resentful, hostile family group can add to the burden of a patient and adversely affect the way he reacts to his illness. Unless the social worker takes into consideration the total family group, she cannot be effective in her work with the patient.

### **Meaning of Illness to Patient**

How a patient feels about his illness affects the entire course of his medical treatment. If he denies it, he may refuse to carry out the doctor's recommendations. If he considers his illness a punishment, he may exaggerate his symptoms. The diagnosis of cancer often has great import, and to be helpful to a patient, the social worker needs to know what the illness means to him.

In our fifty patients, we saw a variety of reactions: depression after being told the diagnosis; denial of illness; denial of anxiety or concern; guilt for having delayed in seeking medical care; fear of be-

coming dependent on others; fear of pain; fear of mutilation; fear of death; difficulty in giving up employment; feeling of aloneness, rejection. In some situations, the social worker could help the patient understand his feelings so that resistance to treatment was removed. In other situations, the patient was helped to ask the doctor questions to get true facts so he would not be burdened with misconceptions. The social worker's knowledge of the patient's defenses helped her and other members of the team to understand the patient more completely.

We also found that some patients had positive attitudes toward their illness. This was due to factors such as close family relationships, cultural or community attitudes, strong religious faith.

Mrs. Davis, referred for help with financial planning, was aware of her diagnosis, carcinoma of the breast with metastases to the lungs, and talked freely about it. She understood that the treatment might or might not help her and that while she was hopeful about it, she would always keep in mind the fact that it might not help. Mrs. Davis would, of course, be very happy if the treatment were successful because she would like to be with her children longer. She believed that children in their teens and before need their mother more than at any other age. Then, too, if the treatment were successful, she would be able to resume many of her responsibilities as a wife and mother. She had always done everything for her family and home. These responsibilities were now upon the oldest daughter, aged 16. This was very difficult for the child because she had never previously assumed responsibility for anything and the adjustment would be hard. The patient was also concerned because the daughter had to stop school to remain in the home. Mrs. Davis denied that she was worried or concerned about herself. She did not have much pain, and although she expected severe pain in the future she felt she could tolerate a great deal without difficulty. She knew that her illness was a fatal one and remarked, cheerfully, that "going away" would not be hard because she knew that she would "be going from this life to a better one."



It was the social worker's impression that Mrs. Davis had a positive attitude toward her illness and with the help of her religious faith had made a satisfactory adjustment.

How much the patient should be told about his illness is a controversial subject and I am not going to discuss this. However, because it is important for the social worker to know what the illness means to the patient, it is necessary for her to know what the patient has been told. Only then can she judge the appropriateness of his reaction. The patient who denies his illness may not have been told he has cancer, or the doctor may have been very frank with him. Even though the patient has not been told his diagnosis, the social worker can help him discuss his feelings about his illness and the facts that he has been given. If indicated, she would help him ask the doctor for more information.

It is not enough that the social worker know the meaning the disease has to a particular patient. She must also know the meaning this disease has to her. Social workers and other professional personnel are human and have reactions and fears like others. They must know themselves before they can help others to explore their feelings. Social workers will not be able to help cancer patients unless they have analyzed their own fears and anxieties about cancer, because it is only then that they can be warm and objective in their relationships with the cancer patient.

### Summary

We found that fifty patients with cancer who were referred to the Social Service Department of Duke University Medical Center had many problems with which the

social worker could help. Most of these problems did not differ from those found in any group of patients with a long-term illness. Although usually referred for only one reason, the patients often had worries in several areas. Those seen most frequently were financial worries, family relationship problems and emotional disturbances. The financial problems included not only the cost of long-term medical care but also the loss of income during illness and its effect on the family. We also found that although the economic problem was a real one, it was often accompanied by other problems more difficult to face.

Families of patients were able to use the social worker's help in understanding the patient's illness and in helping the patient to adjust to his diagnosis. Family relationships played an important part in determining whether the patient would receive terminal care within or outside the home. Finally, the patient's reaction to his illness and his adjustment to the diagnosis and recommendations were problems not always recognized by him but were apparent to the skillful social worker. By understanding what the illness means to the patient, how it affects him and his family and the defenses he uses, the social worker can determine whether the patient is able to use help toward making a more satisfying adjustment. Only the social worker who has analyzed her own feelings about cancer can really help the cancer patient effectively.

All patients with cancer who have social or emotional problems should be evaluated from the economic, family and psychological points of view.

*Present address: Director, Social Service Department, New England Medical Center, Boston, Mass.*

### Nursing Note

The Department of Nurse Education, New York University, offers a one year clinical course in Oncological Nursing to registered nurses. This is in conjunction with James Ewing Hospital of the Memorial Center for Cancer and Allied Diseases. Classes are admitted twice yearly, in February and September. There are twenty-one nurses currently enrolled in the program.

Further information from: Miss Helene Butall, Instructor, Internship in Oncological Nursing, James Ewing Hospital—Room 336, 1250 First Avenue, New York 21, New York.



## United Funds and Voluntary Health Agencies

The past few years have witnessed the development of an increasing controversy between the United Funds and the Voluntary Health Agencies. At times the dispute has descended to levels neither mature nor dignified.

The genesis of the controversy is simple. United Funds have been created to put an end to multiple fund drives for worthy causes. The argument that one might contribute once—and be done with it—appears attractive, particularly to those whose knowledge of the functions of the organizations involved is limited.

These organizations fall into two principal categories. One group consists of local welfare agencies. The other is composed of national health agencies, among which are such highly respected bodies as the American Cancer Society, the American Heart Association, the National Tuberculosis Association and the National Foundation for Infantile Paralysis. These have contributed significantly to the health and medical welfare of the American people. All have state and local subdivisions.

It is worth while to examine the functions of the two groups of agencies. Both are devoted to meeting human needs and are therefore admirable. They have certain points of similarity but greater differences.

The local welfare organizations were established to care for the needy in their own communities. The needs of one community may vary from those of another and may include providing employment, food, shelter, clothing, transportation, medical and hospital care, recreation facilities and other services.

It may be laudable for a community group to survey the overall requirements for these strictly local services, to raise funds in appropriate amount and to distribute them on the basis of a generally

acceptable formula. No valid objection to this procedure can be offered, and local welfare organizations wishing to become a part of United Funds should be free to do so.

The value of a particular local organization must be estimated at the community level. Worthy welfare programs deserve our support and when they are joined together in a common campaign for funds we should assist in the project.

The situation with the Voluntary Health Agencies is quite different. The primary purposes of these agencies are to support research, to conduct programs of public education and to assist in professional education. The service aspects of most agencies are limited and constitute a minor portion of their activities. The principal exception is the National Foundation for Infantile Paralysis. As important, however, as the service program of the Foundation may be, it pales into insignificance when compared with the research which led to the development of the Salk vaccine.

The reduction of the death rate of tuberculosis can be attributed in part to the efforts of the Tuberculosis Association. It becomes progressively more apparent that the conquest of cancer and cardiovascular diseases will be accomplished through research into the causes of these conditions and into improved methods of prevention and treatment. Progress is being made in these fields, but much more remains to be done.

It is not easy to decide which research projects deserve support, even at the national level, where maximum information and the services of experts are available. This is much more difficult to accomplish at the state level and it is virtually impossible to do so realistically in the local community. National leadership is essential.

Public education is a prime function of the Voluntary Health Agencies and is par-

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ticularly important in the field of cancer. The annual crusade of the American Cancer Society in April does more to inform the public of the necessity of early diagnosis and early effective treatment than the year-round educational activities of the Society. Thousands of dedicated volunteer workers disseminate important information about cancer while soliciting contributions. The solicitation of funds and the education of the public are inextricably linked.

The individual Voluntary Health Agency must be judged on the basis of its announced objectives, the effectiveness and fidelity it displays in pursuing those objectives and the soundness of its budget. A reasonable overhead and economy of operation are important items.

In some communities great pressure has been exerted upon local branches of the Health Agencies to force them into United Funds. Coercive tactics, misrepresentation and subterfuge have been used. In certain instances medical societies have been induced to set up local research foundations which they are ill equipped, from the standpoint of special skills, experience and facilities, to administer wisely.

This mechanism has been used to enable United Funds to receive donations in the names of diseases the Voluntary Health Agencies were founded to combat. The freedom of the agencies to conduct their own campaigns has been curtailed.

Where long-time arrangements have existed between United Funds and Health Agencies involving participation of the Agencies in campaigns of the United Funds, the experience usually has been unsatisfactory. Smaller sums have been raised for specific purposes than could have been achieved by the agencies alone. It must be recognized that local service demands tend to take precedence over broader programs. The end result has been less well financed research and injury to the public education endeavor.

At the recent hearings of the Shipman Committee in Chicago, it was convinc-

ingly demonstrated that the United Community Funds and Councils of America (the national organization of United Funds) is determined to eliminate the fund-raising activities of the Voluntary Health Agencies. It was further developed that donations designated for specific purposes will be accepted by United Funds temporarily, but ultimately the donor probably will be deprived of the right to have his gift allocated according to his desires.

We commend the Voluntary Health Agencies for their refusal to accept money from the United Funds and for directing their state and local units to do likewise. Should the efforts of the United Funds and Councils succeed, the destruction of the Voluntary Health Agencies will be inevitable. These agencies have a record of accomplishment and are rendering constructive service to the American people. Their loss would be a catastrophe.

We, as members of the medical profession, recognize the value of the Voluntary Health Agencies. We also dislike and resent coercion—whether it be by government or by others who arrogate decision as to the course we should follow.

To remain effective, the Voluntary Health Agencies must maintain their independence and retain their identities. It is vital that they not be dominated by other influences or be submerged in larger organizations.

The medical profession probably represents the most potent body of informed public opinion in this controversy. We are convinced that the Voluntary Health Agencies are performing a valuable service. We must not permit ourselves to be coerced or cajoled into programs designed to destroy them. The loss of these bodies would be an open invitation to government to step into the void thus created. Governmental agencies have a place in the financing of research, but to surrender the field to them completely would be to court disaster.



## " . . . AND THE SOUND OF A VOICE THAT IS STILL"

### International Association of Laryngectomees

There are somewhere between twenty-five and forty-five thousand laryngectomees in the United States. During the past few years at various places throughout the country these laryngectomees have been organizing into groups for the combined purposes of sociability and complete rehabilitation under such names as LOST CHORD, NEW SPEECH, NEW VOICE, ESOPHAGEAL SPEECH, NU VOICE and CURED CANCER CLUBS.

In August of 1952 the first annual convention of these groups was held in Cleveland and the International Association of Laryngectomees was organized. In 1955 the American Cancer Society granted the budget requested by this organization for the purpose of reorganizing and strengthening this phase of the cancer control program. The Association exists solely for the purpose of promoting total rehabilitation of the laryngectomee—physical, psychologic, social and economic. Relearning to speak after removal of the larynx is an unusually dramatic example of rehabilitation. Esophageal speech training programs are supported, and a course for teachers of esophageal speech is being sponsored. For further information address Mr. Edward W. Tuescher, Executive Secretary, International Association of Laryngectomees, 4811 John R. Street, Detroit, Michigan.

### Rehabilitation of Laryngectomees

At the National Hospital for Speech Disorders in New York City, rehabilitation following laryngectomy is supported by the American Cancer Society through a

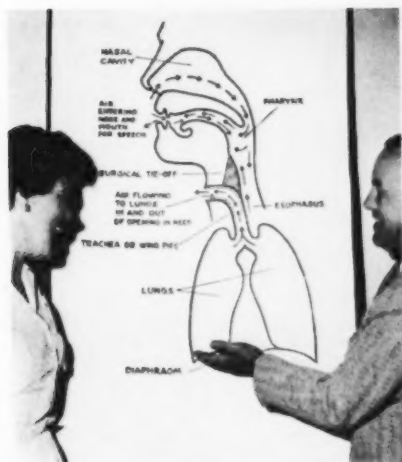


Fig. 1. Homer Berg, a laryngectomee, of Fargo, N. D., discusses with Eleanor Swanson, St. Paul speech therapist, some of the anatomical changes effected by laryngeal cancer surgery and how postlaryngectomy speech is formed at IAL meeting.



Fig. 2. P. J. R. Payne (left) of Calgary, Canada, and Walter S. Park, of Akron, Ohio, had a grand time during the old-fashioned song fest at the IAL convention. Here they lead one another in a song, while Mary Burnell looks on. All three are laryngectomees.



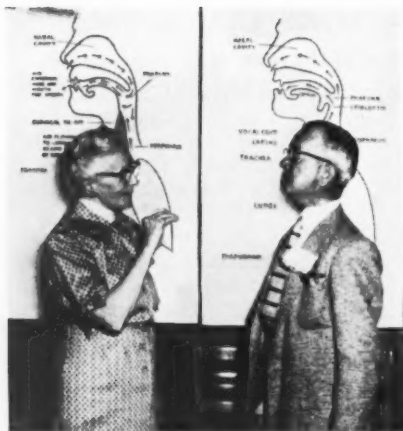


Fig. 3. Mrs. Mary Doehler, speech teacher for the Boston Cured Cancer Club, and secretary of the IAL, practices with Joseph Sullivan, laryngectomee from Anaconda, Mont. A laryngectomee, Mrs. Doehler, a school teacher before her operation, is still a teacher, though today her students are all laryngectomees.

grant from the New York City Cancer Committee. The role of the therapist, himself a laryngectomee, is not only that of teacher and supervisor but a friend who understands the emotional problems of the patient who has lost his larynx to cancer. The method of producing artificial voice (esophageal speech) whereby the laryngectomee swallows air and expels it upward is considered the most effective and best suited to the majority of patients. Today, it is possible for most students to learn to speak well enough for all social usage in about three months. It can be acquired only by determination, courage and the help of a considerate instructor. These pictures indicate how the laryngectomee is trained to speak so that he may maintain his established place in society.

The American Cancer Society recognizes that the patient who has undergone



Fig. 4. Laryngectomee Mary Burnell (left) of Indianapolis talks into a tape recorder used by speech therapist Alan C. Nichols (right) in conducting classes for the Columbus, O. Lost Chord Club. Watching is laryngectomee Kenneth Lockwood.



Fig. 5. At the National Hospital for Speech Disorders in New York City, the speech therapist, John McClear, himself a laryngectomee, assures the new laryngectomee that soon he will not have to rely on his pencil to communicate with others.



laryngectomy, just as the mastectomy or colostomy patient, is a person whose specific handicap is particularly associated with cancer. Its support of the efforts of the International Association of Laryngectomees expresses the Society's concern for the best possible rehabilitation of the laryngectomee. It is acutely aware of the social and occupational significance of the voice faculty, and for this reason directs its support, in many of its Divisions to this important phase of rehabilitation. It recognizes with the IAL, that of all methods of developing a new voice now available, the esophageal method is the most acceptable and the most practical, and that the mechanical and electronic devices of excellent quality now offered serve primarily as auxiliary or alternate aids in the vocal rehabilitation of the patient who has lost a larynx to cancer.



Fig. 6. Mrs. Weber opens her mouth to speak, using a mechanical gadget, which offers an ancillary service in vocal rehabilitation. After this trial, she returned to the more acceptable esophageal speech. Her husband and Mr. McClear lean forward intently waiting expectantly for the result.

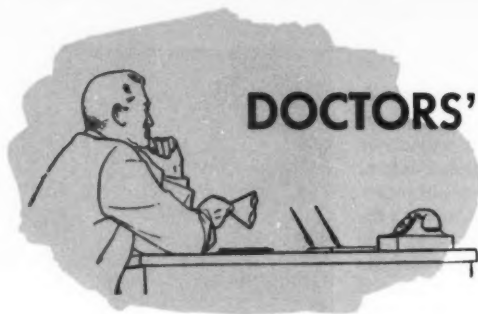


Fig. 7. A former actor, John McClear (right), is in the process of teaching one of his students esophageal speech. This method is generally considered the most effective, least gadgety, and best suited to the majority of patients.



Fig. 8. The class practices part of the laryngectomee exercise toward producing an artificial voice. About 175 students graduate each year from this esophageal speech clinic which is typical of many ACS Division-assisted programs.





## DOCTORS' DILEMMAS

**Q** *The mother of a leukemic child is plagued by feelings of guilt and responsibility for the illness because of (1) her smoking during pregnancy, (2) heavy cold tablet therapy just before delivery and (3) antenatal x-ray examination and therapy. In order to relieve her emotional disturbance, can I tell her honestly that these three factors had no part in her child's disease?*

**A** Recent analysis of a large series of patients showed no correlation between the mothers' smoking habits and any neoplastic condition, including leukemia, in their offspring. In this same series there were twice as many mothers of leukemic children who had had therapeutic irradiation during pregnancy as in the control group of mothers of children with neoplastic diseases other than leukemia. In another group even antenatal diagnostic roentgenological pelvimetry was shown to double the incidence of leukemia in the offspring. High dosage antihistamine therapy for the common cold during pregnancy has also been shown to increase the chance of leukemia in the infant. What and how to tell the mother depends, as usual, upon her emotional status and upon the rapport existing between her and her physician.

**Q** *What prophylactic measures against skin cancer should be taken in the case of a 62-year-old sea captain with marked keratoses on the backs of his hands and on his cheeks and ears?*

**A** If the patient consents to frequent examinations the small keratoses that show no growth or surface change may remain untreated. Those lesions that persist and enlarge or show infiltrative changes should be examined by biopsy, and, if indicated, should be treated by electrocoagulation and curettage. In patients exceptionally exposed to the sun, keratinization may often be satisfactorily controlled by applying, two or three times daily, an ointment of 2 per cent salicylic acid in unguentum aqua rosae. When long periods of exposure are unavoidable a sunscreen preparation such as 15 per cent paraaminobenzoic acid may be prescribed.

**Q** *I have seen in several medical journals that in areas where the percentage of breast feeding is high the percentage of breast cancer is low. Is a doctor justified in prescribing breast feeding of infants with this effect in mind? How convincing are these statistics?*

**A** There is no sufficient information available concerning the possible connection between breast feeding of infants and the frequency of subsequent development of breast cancer either in the mother or the child. Experiments on mice suggest that certain types of mammary carcinoma are transmitted from the nursing mothers to the sucklings through milk, the causative agent being a virus. Although no similar evidence is yet available in humans, some investigators feel that mothers, particularly those with a family history of breast cancer, should refrain from breast feeding their infants. Artificial feeding



should be substituted from birth since, at least in mice, only a few drops of milk are sufficient to transmit the virus. Nursing or not nursing has no significant influence on the possible tendency of the mother to develop breast cancer. Recent experimental data on mice are consistent with this assumption. Statistical studies in humans are inconclusive in this respect.

**Q** *A 60-year-old woman had a biopsy for cancer of the cervix. The diagnosis was carcinoma in situ of cervix. A week later a conization was performed to certify the diagnosis. The result was a diagnosis of carcinoma of the cervix, grade III, stage one. The patient does not want to undergo surgery or radiation and claims that she might have been cured by the conization. Can a cancer of the cervix be cured by conization without surgery or radiation following?*

**A** The diagnosis of cancer in situ of the cervix demands that the attending physician establish this fact without any chance of error. Therefore, conization of the cervix and sample sectioning of the many blocks are accepted procedures. This case illustrates the need for such thorough study of the squamocolumnar junction of the cervix. The treatment of invasive carcinoma is irradiation and radium or radical hysterectomy and lymph node dissection. No one would take the risk of assuming that simple conization has removed all of the cancer-bearing area. The patient should be told that she has invasive cancer, that there are only two accepted treatments, and that if she refuses to submit to such therapy, she is responsible for whatever might occur because of spread and invasion of the primary lesion.

**Q** *Should medical management be tried in a patient whose roentgenogram shows an ulcer on the greater curvature of the stomach?*

**A** No. Such delay may be fatal. Almost 100 per cent of these lesions of the greater curvature are carcinomas. The temptation to interpret the temporary relief, that may result from conservative medical treatment, to indicate a benign lesion must be resisted. Immediate operative treatment is indicated.

**Q** *Is the lesion in massive gastrointestinal hemorrhage more likely to be benign or malignant?*

**A** Benign. Massive hemorrhage occurs in only about 5 per cent of patients with gastric carcinoma. In peptic ulcer the hemorrhage results from erosion of a sizable blood vessel. If the vessel is large enough to permit of an extreme loss of blood, the hemorrhage may be fatal. This is seldom the case in carcinoma where the hemorrhage is usually due to oozing from the capillaries. However, in cases of massive hemorrhage from the stomach—hematemesis—cancer should be suspected until proved absent.

**Q** *Is preoperative irradiation indicated in primary carcinoma of the endometrium?*


**A** Yes. Irradiation reduces the size of the tumor, making it more easily removed, diminishes the chance of infection and lessens the incidence of recurrence and of metastases.

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The earnings of handicapped persons rehabilitated under the State/Federal program in 1955, during the first year after their rehabilitation into satisfactory employment, is estimated at \$105.1 million. It will interest a public, which presently is more than usually budget and tax conscious, that these persons will pay more in Federal income taxes in three years than the Federal government spent for basic support of the vocational rehabilitation program in 1955.

—Grayson Kirk, President  
Columbia University





# new developments in cancer

## **Heart-Lung Machine . . .**

A spectacular use of the heart-lung machine to perfuse anticancer drugs through tumorous areas has been devised by Creech and others at Tulane. Short-term results in treating 16 patients appear to be highly satisfactory. Only one of the 16 patients seemed not to respond to the massive doses administered to isolated tumorous areas. That was a case of osteogenic sarcoma. Other patients with tumors of the limbs, intestine, pelvis, lung and breast showed objective signs of improvement including dramatic reduction in size of the lesions. One of the more satisfactory cases was a patient with about 175 melanotic metastases, all confined to one leg. A few weeks following perfusion, all but seven had become "freckles," and the remaining seven appeared to have lost their capacity for growth. The technique permits the surgeon to deliver to the tumor 8 to 10 times the drug concentration possible by conventional intravenous routes. Marrow depression is negligible. Two machines are used to perfuse a lung—one controlling lung circulation, the other the rest of the body.

## **Anticancer Yeast Product . . .**

Mankowski, Diller and Nickerson of the Institute for Cancer Research, Philadelphia, have reported that a new carbohydrate extracted from yeast causes the regression of experimental mouse sarcomas and ascites tumors. The active fraction, extracted from the cell walls of candida, is hydroglucan. It is considerably more potent than its parent substance, zymosan, which others have used to elevate properdin levels. Tumor regressions ranged from 44 to 95 per cent in solid tumors. Against experimental mouse leukemia, the preparation extended life three to four days.

## **Actinomycin D . . .**

A few of the nine cancerous children treated with actinomycin D registered regressions ranging from slight to almost complete. Simpson of Roswell Park Memorial Hospital reported that two children—one with a Wilms's tumor metastatic to the lungs and another with a vaginal sarcoma metastatic to lung and kidney showed virtually complete regres-



sion after a course of actinomycin D. Side effects include anorexia and nausea.

### **Chelates and Cancer . . .**

Furst of Stanford University has reported that some carcinogens and some anticancer drugs behave as chelates—they "claw" metals out of enzymes and nucleic acids. He is continuing studies to determine whether chelation may be related to the carcinogenic activity of some drugs and viruses and to the anticancer activity of drugs.

### **Wire Brush for Keratoses . . .**

Burks and others at Tulane have been using the wire brush technique for three years to remove senile keratoses, generally regarded as potentially malignant. In all cases so far, the results have been satisfactory—healthy young skin supplants keratotic tissues and survives. The technique may be a boon to the blue-eyed, red-haired, fair-skinned people of the Southwest who often develop skin cancers from overexposure to sun and weather. Old skin regrows as readily as young skin.

### **Marking the Spot . . .**

Sautry and Knudtson (U. of Wash.) have worked out a technique for marking the spot in the gastrointestinal tract where a polyp is removed. Lusane Brilliant Blue B activated by ascorbic acid was injected into the base of the polyp which was removed with the snare. The mucosa heals well and the blue dye remains readily visible upon subsequent proctosigmoidoscopic examinations. Follow-up of patients with previous polypectomies indicates that simple polypectomy may be preferable to radical surgery when this simple method of site marking is employed.

### **Chemoprophylaxis of Metastases . . .**

Kramer and Schatten (NCI) report the value of triethylenethiophosphoramide

(TSPA) in prevention of pulmonary metastases in DBA mice with S-91 melanoma—a tumor frequently metastasizing to the lung after primary removal. TSPA was effective in reducing the number of pulmonary metastases after removal of the primary tumor, and in some mice metastases were completely prevented. Prevention of increased growth of distant metastases by chemotherapeutic agents after removal of a primary tumor may be studied similarly in human subjects.

### **Growth Hormone . . .**

Growth hormone is being obtained in a co-operative project at autopsy from the pituitaries of hospital patients. It is purified as a gray powder which "looks wholly unremarkable." In dosage of 0.0001 ounce daily, it stimulated a full inch of growth in a 13-year-old girl dwarfed to the size of a 6-year-old. This remarkable growth came within six weeks. The hormone has benefited two other children dwarfed through loss of their own pituitaries or failure of the gland to produce sufficient hormone. The hormone would not benefit persons dwarfed for other reasons.

### **$Y^{90}$ Hypophysectomy . . .**

Harper, Moreley and Ironside (U. of Chicago) reported to the Third International Symposium on Radioisotopes in Clinical Medicine and Research in Vienna in January, 80 hypophysectomies performed for metastatic malignant disease, mostly cancer of the breast. Ten of these were by direct surgical technique. Autopsy specimens showed significant amounts of pituitary tissue left behind. In 46 patients pellets with from 0.3 to 1.0 mc. activity were implanted into the hypophysis. These produced a spherical zone of necrosis 6 to 8 mm. in diameter, but without complete destruction of pituitary tissue, although the patients became sufficiently hypopituitary to require thyroid and cortisone. Recently 26 patients were implanted by transsphenoidal approach under local anesthesia and fluoroscopic control with the



image amplifier. Eight to ten pellets were implanted into each patient with little morbidity and no mortality. A few patients have had spectacular improvement.

### Smoking and Lung Cancer Again . . .

A U. S. Public Health Service study among nearly 200,000 U. S. veterans shows a significantly higher death rate among regular tobacco smokers than among nonsmokers. The first report on this extensive and continuing statistical survey was made on July 8 by Dr. Harold F. Dorn, chief statistician for the National Institutes of Health, to the Seventh International Cancer Congress in London. The survey generally supports the findings of earlier studies, including those of the American Cancer Society, demonstrating a statistical relationship between death rates and smoking.

Dr. Dorn summarized death rates among 198,926 United States Government Life Insurance policy holders from July 1954 to December 1956. The deaths were then related statistically to the smoking habits of the veterans. The initial report covers 7382 deaths during this period. Of these veterans, 6203 were smokers and 1179 were nonsmokers.

The report includes the following points:

1. The death rate from all causes of persons who used tobacco was 16 per 1000, compared with 13.1 per thousand for persons who never smoked. Adjusted to take into account the differences in age distribution between the two groups, the death rate was 32 per cent higher for smokers than for nonsmokers.

2. Persons who regularly smoked only cigarettes had the highest death rate of all groups of smokers—58 per cent greater than the death rate for nonsmokers.

3. The lung cancer rate for regular smokers of only cigarettes was about 10 times the death rate for nonsmokers.

4. The death rates among regular cigarette smokers were closely related to the

amount smoked. For example, death rates of persons who smoked more than 40 cigarettes a day were much higher than those of persons who smoked fewer than 10 cigarettes a day.

5. The death rate of persons who regularly smoked cigars and pipes was not significantly higher than that of nonsmokers. Only the heaviest users of cigars and pipe tobacco had an appreciably higher death rate from all causes than nonsmokers.

6. Nearly two thirds of the 6203 deaths of tobacco users studied were attributed to diseases of the heart, blood vessels and kidneys. The death rate from coronary heart disease was found to be 63 per cent greater for regular smokers of cigarettes only than for nonsmokers.

7. Regular cigarette smokers who had stopped smoking before the study began in 1954 had a lower mortality rate than those who continued to smoke. However, the rate was 30 per cent greater than that of nonsmokers.

8. Regular cigarette smokers also had higher death rates from certain respiratory disease such as bronchitis, pleurisy and emphysema, from ulcers of the stomach and duodenum and from cirrhosis of the liver.

The data were obtained from persons who served in the armed forces between 1917 and 1940. They represented an age spread from 30 to 90, with the majority between 50 and 70.

In addition to the use of tobacco, the continuing study will also explore possible statistical relationships between death rates and such environmental factors as occupations, work environments and characteristics of the communities in which the persons lived.

Of the veterans who died during the study period, 2771 had had a history of regular smoking of cigarettes only. Had their death rate been the same as for nonsmokers, only 1758 would have died. Thus, the death rate for all regular cigarette smokers was 58 per cent higher than that for nonsmokers.

Copies of Dr. Dorn's paper are available on request at the National Institutes of Health, Bethesda 14, Maryland.



Cohen (U. of Pa.) reported that certain virulent bacteriophages produce 5-hydroxymethylcytosine instead of cytosine, and that this is incorporated into the DNA. These and other studies indicate that thymine antagonists, used as anticancer agents, might be potentiated by diets deficient in thymine.

Luria (U. of Ill.) has proposed a brilliant and hopeful new theory of cancer viruses. Viruses may behave in cancer as they do in bacteria of some strains -- invade the cell, and, after an indeterminate period, attach themselves to the chromosomes. Then the viruses may become lysogenic "genes" and become lost except for the physical and chemical traits with which they endow the cell. If viruses in human cancer behave in this way it may be a long time before they are isolated. They may never be. Hope lies in two findings: (1) Before they attach to the chromosomes, the bacteriophage can be destroyed with chloromycetin. (2) After they attach, they produce an antigen on the cell membrane. Theoretically this could serve as a marker of cancer cells and as a target for antibodies specific against cancer.

Rubin (Cal. Tech.) infected normal chicken cells in vitro with Rous sarcoma virus, which behaved, roughly, in the manner of the bacteriophage described by Luria. It became a bit of misinformation attached to the genetic material; and this was inherited by the daughter cells. These findings tend to make the somatic mutation theory and the virus theory of cancer compatible. Exposure to x-ray, in these experiments, inactivated the viruses and blocked the cells from becoming virus factories (lysing).

Riker, Hildebrandt and Muir (U. of Wis.) reduced the infectivity of tobacco mosaic virus by 40 per cent with 6-methylpurine, without damaging the plant cells. Time will tell whether this opens the door to chemical control of virus infections, and whether it has any application to cancer.

Cole and McDonald (U. of Ill.) reviewed more than a thousand cases of reported spontaneous regression of cancer and found more than a hundred of these were adequately documented for acceptance. Most frequent spontaneous regressions occur in chorionepithelioma, neuroblastoma, melanoma and carcinoma of the bladder. Suspected as causes of these regressions are: changes in endocrine function, surgical removal of at least some of the tumor, low dosage radiation, fever, infection, allergic reaction, interference with tumor nutrition and removal of the carcinogenic agent.



Richards and others (Stanford) transplanted human lung and other tumors into mouse fetuses in utero and found that they took -- not in the offspring but in the pregnant mice.

Eckles (M.D. Anderson) and Kirschbaum and Liebelt (Baylor) treated patients with breast cancer by section of the pituitary stalk and found the results of this simpler procedure equivalent to those from hypophysectomy. A surprising result was that several of the patients lactated, indicating the probability of the hypothalamus producing an inhibitor to the lactogenic hormone of the pituitary.

Neurath (U. of Wash.): Some enzymes become active by losing a few of their terminal amino acids. Science should learn within the near future whether protein is formed in nature by step-by-step prefabrication implosion. When routine protein synthesis is achieved, the world will undergo an unprecedented revolution -- it will mean an abundance of food and goods, the conquest of malignant disease, control of hereditary errors, mastering the ills of old age, an end to many of the most common cripples, physical, mental and spiritual.

Prescott (UCLA): Hot nucleotides go first to nucleolar RNA and then to cytoplasmic RNA. The enucleated cell does not grow, presumably for want of nucleolar RNA.

Kurnick (UCLA): Thymus DNase increases nine-fold one day following irradiation -- its inhibitor apparently is destroyed. Aging appears to do slowly what radiation does rapidly. DNase inhibitor in infused spleen extracts or marrow prevents radiation death.

Furth (Children's Boston): Three trophic, hormone-producing cells of the pituitary have been obtained. Their products stimulate the development and function of the thyroid, adrenal cortex and breast. Hormone-induced hypertrophy is merely a preliminary to the malignant process and is reversible. Hormone-independent development beyond that is true malignant growth and is irreversible.

Blout (Children's Boston): Synthetic polypeptides, with a molecular weight range from ten thousand to one million, have been built. They show no specific activity.

Handler (Children's): Tumors from 33 children and 21 adults now are growing in hamsters; and the animals are being treated with a variety of new drugs to determine their effects on the tumors.



# COMING MEDICAL MEETINGS

Date 1958	Meeting	City
July 21-23	Postgraduate Medical Association of South Texas	Houston
July 23-25	Thoracic Society	Copenhagen
July 30-Aug. 2	International Association of Laryngectomized Persons	Boston
Aug. 4-9	International Congress of Microbiology	Stockholm
Aug. 10-16	International Congress of Radiation Research	Burlington, Vt.
Aug. 11-14	National Medical Association	Milwaukee
Aug. 11-16	World Federation of Occupational Therapists	Copenhagen
Aug. 12-24	Fourth World Assembly, Israel Medical Association	Tel Aviv and Jerusalem
Aug. 14-16	Rocky Mountain Radiological Society	Denver
Aug. 15-20	World Medical Association	Copenhagen
Aug. 18-21	American Hospital Association	Chicago
Aug. 20-23	International Congress of Photofluoroscopy	Stockholm
Aug. 20-27	International Congress of Genetics	Montreal
Aug. 21-23	International College of Surgeons, Regional Meeting, Western Section	Reno
Aug. 24-29	American Congress of Physical Medicine and Rehabilitation	Philadelphia
Aug. 25-29	Gordon Research Conference on Cancer	New London, N. H.
Aug. 27-Sept. 3	British Association for the Advancement of Science	Glasgow
Aug. 28-Sept. 1	Fourth International Biometric Conference	Ottawa
Sept. 1-7	Fourth International Congress of Biochemistry	Vienna
Sept. 1-13	International Conference on the Peaceful Uses of Atomic Energy	Geneva
Sept. 3-10	International Society of Hematology	Rome
Sept. 6	Annual Cancer Seminar— The Penrose Cancer Hospital	Colorado Springs, Colorado
Sept. 7-11	Fifth International Congress on Diseases of the Chest	Tokyo
Sept. 8-12	International Congress of Ophthalmology	Brussels
Sept. 10-17	Fourth International Congress for Electronmicroscopy	Berlin
Sept. 18-20	Pacific Dermatological Association	Coronado, Calif.
Sept. 22-24	Texas Academy of General Practice	San Antonio
Sept. 24-26	Mississippi Valley Medical Society	Chicago
Sept. 26-27	New England Surgical Society	Bretton Woods, N. H.
Sept. 28-Oct. 22	International Congress of History of Medicine	Montpellier, France
Sept. 30-Oct. 2	Ohio Academy of General Practice	Toledo
Sept. 30-Oct. 3	American Roentgen Ray Society	Washington, D. C.
Oct. 5-7	Southern Psychiatric Association	Nashville
Oct. 6-10	American College of Surgeons	Chicago
Oct. 12-17	American Academy of Ophthalmology and Otolaryngology	Chicago
Oct. 12-17	American Society of Plastic and Reconstructive Surgery	Chicago
Oct. 13-15	Association of American Medical Colleges	Swampscott, Mass.
Oct. 13-17	Postgraduate Week, New York Academy of Medicine <i>Research Contributions to Clinical Practice</i>	New York City
Oct. 20-21	Scientific Program, American Cancer Society <i>Symposium on Cancer of the Colon and Rectum</i>	New York City



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